VERITAS

VERITAS NetBackup™ 5.1 for Novell NetWare® Client

System Administrator's Guide

for UNIX and Windows

N123488

Contents

NetWare Client System Administrator's Guide

Preface

This guide describes how to install, configure, and use NetBackup's Novell NetWare Client to back up and restore data that resides on a NetWare file server. Topics covered in this guide require the reader to have a working knowledge of NetBackup and of the NetWare operating environment.

What Is In This Manual?

This guide is organized as follows:

◆ *Chapter 1, Introduction*, provides an overview of the Novell NetWare Client and the two user interfaces for the client, and describes technical terms and concepts.

◆ *Chapter 2, Installing the NetWare Client*, lists system requirements and steps for installing the Novell NetWare Client.

◆ *Chapter 3, Configuring the NetWare Client*, provides an overview of the configuration defaults set during install and provides instructions on configuring NetBackup client software and NetBackup server software. It also provides important operating notes for this application.

◆ *Chapter 4, Backing Up Data,* provides an overview of the backup process and lists the steps for backing up NetWare file servers using both the Target and NonTarget methods.

◆ *Chapter 5, Restoring Data*, provides an overview of the restore process and the steps for restoring NetWare file servers using both the Target and NonTarget methods.

◆ *Chapter 6, Using the Open File Backup Option*, provides information on formatting the `bp.ini` file when using Open File Backup Option.

◆ *Chapter 7, Using the NetWare Client in a Cluster Environment*, provides information about using the NetWare Client when operating in a cluster.

◆ *Chapter 8, Troubleshooting,* provides solutions to some of the more commonly seen problems or issues.

Getting Help

VERITAS offers you a variety of support options.

Accessing the VERITAS Technical Support Web Site

The VERITAS Support Web site allows you to:

◆ obtain updated information about NetBackup's Novell NetWare Client, including system requirements, supported platforms, and supported peripherals

◆ contact the VERITAS Technical Support staff and post questions to them

◆ get the latest patches, upgrades, and utilities

◆ view the NetBackup's Novell NetWare Client Frequently Asked Questions (FAQ) page

◆ search the knowledge base for answers to technical support questions

◆ receive automatic notice of product updates

◆ find out about NetBackup's Novell NetWare Client training

◆ read current white papers related to NetBackup's Novell NetWare Client

The address for the VERITAS Technical Support Web site follows:

◆ http://support.veritas.com

Subscribing to VERITAS Email Notification Service

Subscribe to the VERITAS Email notification service to be informed of software alerts, newly published documentation, Beta programs, and other services.

Go to http://support.veritas.com. Select a product and click "E-mail Notifications" on the right side of the page. Your customer profile ensures you receive the latest VERITAS technical information pertaining to your specific interests.

Accessing VERITAS Telephone Support

Telephone support for NetBackup's Novell NetWare Client is only available with a valid support contract. To contact VERITAS for technical support, dial the appropriate phone number listed on the Technical Support Guide included in the product box and have your product license information ready for quick navigation to the proper support group.

▼ **To locate the telephone support directory on the VERITAS web site**

1. Open http://support.veritas.com in your web browser.

2. Click the **Phone Support** icon. A page that contains VERITAS support numbers from around the world appears.

Accessing VERITAS E-mail Support

▼ **To contact support using E-mail on the VERITAS web site**

1. Open http://support.veritas.com in your web browser.

2. Click the **E-mail Support** icon. A brief electronic form will appear and prompt you to:
   - Select a language of your preference
   - Select a product and a platform
   - Associate your message to an existing technical support case
   - Provide additional contact and product information, and your message

3. Click **Send Message**.

Contacting VERITAS Licensing

For license information call 1-800-634-4747 option 3, fax 1-650-527-0952, or e-mail amercustomercare@veritas.com.

VERITAS NetBackup Manuals

The CD-ROM for each NetBackup product has a copy of the related manuals in Adobe Portable Document Format (PDF). The PDF files are either in the root directory or the Docs directory on the CD-ROM.

To view the PDF copies of the manuals, you need an Adobe Acrobat reader, which you can download from the Adobe web site at http://www.adobe.com. VERITAS assumes no responsibility for the correct installation or use of the reader.

Release Notes

- *VERITAS NetBackup Release Notes for UNIX and Windows*

NetBackup_Release_Notes.pdf

Provides important information about NetBackup on UNIX- and Windows-based servers, such as the platforms and operating systems that are supported and operating notes that may not be in the NetBackup manuals or the online help.

Installation Guides

◆ *VERITAS NetBackup Installation Guide for UNIX*

NetBackup_Install_UNIX.pdf

Explains how to install NetBackup software on UNIX-based platforms.

◆ *VERITAS NetBackup Installation Guide for Windows*

NetBackup_Install_Windows.pdf

Explains how to install NetBackup software on Windows-based platforms.

System Administrator's Guides - Basic Product

◆ *VERITAS NetBackup System Administrator's Guide for UNIX, Volume I*

NetBackup_AdminGuideI_UNIXServer.pdf

Explains how to configure and manage NetBackup on a UNIX server, including managing storage units, backup policies, catalogs and host properties.

◆ *VERITAS NetBackup System Administrator's Guide for UNIX, Volume II*

NetBackup_AdminGuideII_UNIXServer.pdf

Explains additional NetBackup features such as notify scripts, enhanced authorization and authentication, and role-based security. The guide also discusses using NetBackup with AFS, Intelligent Disaster Recovery (IDR), and the BE Tape Reader.

◆ *VERITAS NetBackup System Administrator's Guide for Windows, Volume I*

NetBackup_AdminGuideI_WinServer.pdf

Explains how to configure and manage NetBackup on a Windows server, including managing storage units, backup policies, catalogs and host properties.

◆ *VERITAS NetBackup System Administrator's Guide for Windows, Volume II*

NetBackup_AdminGuideII_WinServer.pdf

Explains additional NetBackup features such as notify scripts, enhanced authorization and authentication, and role-based security. The guide also discusses using NetBackup with AFS, Intelligent Disaster Recovery (IDR), and the BE Tape Reader.

◆ *VERITAS NetBackup Media Manager System Administrator's Guide for UNIX*

MediaMgr_AdminGuide_Unix.pdf

Explains how to configure and manage the storage devices and media on UNIX servers running NetBackup. Media Manager is part of NetBackup.

◆ *VERITAS NetBackup Media Manager System Administrator's Guide for Windows*

MediaMgr_AdminGuide_Win.pdf

Explains how to configure and manage the storage devices and media on Windows servers running NetBackup. Media Manager is part of NetBackup.

System Administrator's Guides - Agents and Options

◆ *VERITAS NetBackup for NDMP System Administrator's Guide*

NetBackup_AdminGuide_NDMP.pdf

Explains how to install, configure, and use NetBackup for NDMP to control backups on an NDMP host.

◆ *VERITAS NetBackup Advanced Reporter System Administrator's Guide for UNIX and Windows*

NetBackup_AdminGuide_AdvancedReporter.pdf

NetBackup Advanced Reporter (NBAR) is a backup and storage management monitoring tool designed to simplify the task of monitoring and reporting on an organization's VERITAS NetBackup activities.

Getting Started Guide

◆ *VERITAS NetBackup Backup, Archive, and Restore Getting Started Guide*

NetBackup_BAR_GS_Guide.pdf

Explains how to use NetBackup Backup, Archive, and Restore interface to perform basic backup and restore operations for UNIX and Windows systems.

Device Configuration Guide - Media Manager

◆ *VERITAS NetBackup Media Manager Device Configuration Guide for UNIX and Windows*

MediaMgr_DeviceConfig_Guide.pdf

Explains how to add device drivers and perform other system-level configurations for storage devices and media servers (or SAN media servers) that are supported by NetBackup Media Manager.

Troubleshooting Guides

◆ *VERITAS NetBackup Troubleshooting Guide for UNIX and Windows*

NetBackup_Troubleshoot_Guide.pdf

Provides troubleshooting information for UNIX- and Windows-based NetBackup products, including Media Manager.

NetBackup Commands

◆ *VERITAS NetBackup Commands for UNIX*

NetBackup_Commands_UNIX.pdf

Describes NetBackup and Media Manager commands and processes that can be run from a UNIX command line.

◆ *VERITAS NetBackup Commands for Windows*

NetBackup_Commands_Windows.pdf

Describes NetBackup and Media Manager commands and processes that can be run from a Windows command prompt.

For more information about NDMP, see the following web site:

```
http://www.ndmp.org
```

Online Documentation

On Windows Servers

The released software contains on-line PDF and ASCII versions of these release notes and a readme file for the client. If you choose to install the documentation during setup, NetBackup installs these documents in the following locations on your disk:

◆ *install_path*\Help\

Adobe Acrobat Portable Document Format (PDF) copies of all related documents, including these release notes.

◆ The readme files on *install_path*\NetBackup\ are:

  ◆ Readme.txt (The Readme.txt file (ASCII format) may be slightly more up-to-date than the printed and pdf copies of the release notes.)

  ◆ Readme_Client.txt

  ◆ Readme_Server.txt

  ◆ Readme_SMS.txt

  ◆ Readme_Win2000.txt

On UNIX

The product CD-ROM also contains PDF copies of these release notes and other documents.

Note You will need Adobe Acrobat Reader to view the PDF documents. The latest version of Acrobat Reader is available on the Adobe web site: `http://www.adobe.com`.
VERITAS assumes no responsibility for the correct installation or use of the reader.

Glossary

If you encounter unfamiliar terminology, consult the NetBackup online glossary. The glossary contains terms and definitions for NetBackup and all additional NetBackup options and agents.

The NetBackup online glossary is included in the NetBackup help file.

▼ **To access the NetBackup online glossary**

1. In the NetBackup Administration Console, click **Help** > **Help Topics**.

2. Click the **Contents** tab.

3. Click **Glossary of NetBackup Terms**.

Use the scroll function to navigate through the glossary.

Accessibility Features

NetBackup contains features that make the user interface easier to use by people who are visually impaired and by people who have limited dexterity. Accessibility features include:

◆ Support for assistive technologies such as screen readers and voice input (Windows servers only)

◆ Support for keyboard (mouseless) navigation using accelerator keys and mnemonic keys

For more information, see the *NetBackup System Administrator's Guide for Windows, Volume I* or the *NetBackup System Administrator's Guide for UNIX, Volume I.*

Conventions

The following conventions apply throughout the documentation set.

Product-Specific Conventions

The following term is used in the NetBackup's Novell NetWare Client 5.1 documentation to increase readability while maintaining technical accuracy.

◆ Microsoft Windows, Windows

Terms used to describe a specific product or operating system developed by Microsoft, Inc. Some examples you may encounter in NetBackup documentation are, Windows servers, Windows 2000, Windows Server 2003, Windows clients, Windows platforms, or Windows GUI.

When Windows or Windows servers is used in the documentation, it refers to all of the currently supported Windows operating systems. When a specific Windows product is identified in the documentation, only that particular product is valid in that instance.

For a complete list of Windows operating systems and platforms that NetBackup supports, refer to the *NetBackup Release Notes for UNIX and Windows* or go to the VERITAS support web site at `http://www.support.veritas.com`.

Typographical Conventions

Here are the typographical conventions used throughout the manuals:

Conventions

Convention	Description
GUI Font	Used to depict graphical user interface (GUI) objects, such as fields, listboxes, menu commands, and so on. For example: Enter your password in the **Password** field.
Italics	Used for placeholder text, book titles, new terms, or emphasis. Replace placeholder text with your specific text. For example: Replace *filename* with the name of your file. Do *not* use file names that contain spaces.
	This font is also used to highlight NetBackup server-specific or operating system-specific differences. For example: *This step is only applicable for NetBackup Enterprise Server.*
`Code`	Used to show what commands you need to type, to identify pathnames where files are located, and to distinguish system or application text that is displayed to you or that is part of a code example.

Conventions (continued)

Convention	Description
Key+Key	Used to show that you must hold down the first key while pressing the second key. For example: Ctrl+S means hold down the Ctrl key while you press S.

You should use the appropriate conventions for your platform. For example, when specifying a path, use backslashes on Microsoft Windows and slashes on UNIX. Significant differences between the platforms are noted in the text.

Tips, notes, and cautions are used to emphasize information. The following samples describe when each is used.

Tip   Used for nice-to-know information, like a shortcut.

Note Used for important information that you should know, but that shouldn't cause any damage to your data or your system if you choose to ignore it.

Caution   Used for information that will prevent a problem. Ignore a caution at your own risk.

Command Usage

The following conventions are frequently used in the synopsis of command usage.

brackets [ ]

The enclosed command line component is optional.

Vertical bar or pipe (|)

Separates optional arguments from which the user can choose. For example, when a command has the following format:

command *arg1*|*arg2*

In this example, the user can use either the *arg1* or *arg2* variable.

Navigating Multiple Menu Levels

When navigating multiple menu levels, a greater-than sign (>) is used to indicate a continued action.

The following example shows how the > is used to condense a series of menu selections into one step:

❖ Select **Start** > **Programs** > **VERITAS NetBackup** > **NetBackup Administration Console**.

The corresponding actions could be described in more steps as follows:

1. Click **Start** in the task bar.

2. Move your cursor to **Programs**.

3. Move your cursor to the right and highlight **VERITAS NetBackup**.

4. Move your cursor to the right. First highlight and then click **NetBackup Administration Console**.

Introduction 1

NetBackup's Novell NetWare Client allows you to fully protect your NetWare server.

When the NetWare Client is installed, your NetWare server is configured as a *NetBackup client*, which in NetBackup terminology is the system you want to back up. The system that manages the storage and retrieval of the backup data is called the *NetBackup master server* or *NetBackup server*.

With the NetWare Client, the NetBackup administrator can schedule full backups and incremental backups to occur automatically and unattended, under the control of the NetBackup master server. The NetWare Client provides two methods for creating scheduled as well as user-directed backups and restores:

◆ *Target*. This method involves the creation of targets using a character-based menu-driven interface that runs on the NetWare file server console. A target consists of NetBackup configuration information that defines the collection of information on the NetWare server that is to be backed up. For more information about targets, see "Defining Targets to Back Up" on page 53.

◆ *NonTarget*. This method allows backup and restore jobs to be created from the NetBackup administration console without the use of targets. For user-directed backups, this method uses the NetBackup for NetWare NonTarget Browser (NetWare Client's Backup, Archive, and Restore) interface, which is installed on and run from a Windows computer.

Regardless of where the backup job is launched, the backup is controlled by the NetBackup master server and the data is copied to a storage device connected to the NetBackup media server. (A master server can also be a media server.)

Note With the NetWare Client, storage devices used for backup and restore are *not* attached to the NetWare server. To backup data to a device attached to the NetWare server, you would need to use NetBackup's NetWare Media Server Option. For more information about this option, refer to the *VERITAS NetBackup 5.0 NetWare Media Server Option System Administrator's Guide*.

When using the Target and NonTarget methods, you do *not* have to log on to the NetBackup server to start backup or restore operations.

Understanding the Target and NonTarget Methods

If you use the Target method, user-directed operations are performed through bp.nlm, which is a character-based, menu-driven interface that runs on the NetWare server console.

Target Main Menu

```
BP                            NetBackup                         Version 4.5GA
                 Copyright 1993 - 2002 VERITAS Software Corporation

                 NetBackup Server:   bedo3
                 NetBackup Client:   Mus (BROWSER)

                     Main Menu
                     ---------
                     b)  User Directed Backup...
                     r)  Restore Backups...
                     f)  Restore True Image Backups...
                     t)  Target Configuration...
                     n)  NetBackup Configuration...
                     h)  Help
                     q)  Quit Utility

                     ENTER CHOICE: _
```

To use this method, you must configure *targets*, which include information about your resource being protected, through the bp.nlm utility on the NetWare server. The Target method derives its name from Novell's *Storage Management Services* (SMS) software, which allows data to be stored and retrieved on NetWare servers independent of the file system the data is maintained in (DOS, OS/2, Mac, etc.). SMS does this through the use of *Target Service Agents* (TSAs) and *target services*. A TSA is a Novell NetWare agent that prepares a target's data for SMS during a back up and for the target during a restore. A target service is a service that needs storage management. SMS views all services, such as NetWare volumes, NetWare directory services, and workstations, as targets.

When you create a target, you provide a name for this target, the Storage Management Data Requestor (SMDR) for the target, the TSA, the target service, and the target service username and password; you also select the resource to be protected.

If you use the NonTarget method, the NetBackup for NetWare NonTarget Browser is installed on a Windows computer. Setting up targets is *not* necessary, and setting up user-directed jobs is easier using the NonTarget method's graphical user interface. Information on what is being protected is stored on the NetWare server's bp.ini file stored in the SYS:\VERITAS\NBUCLT directory.

NetBackup for NetWare NonTarget Browser
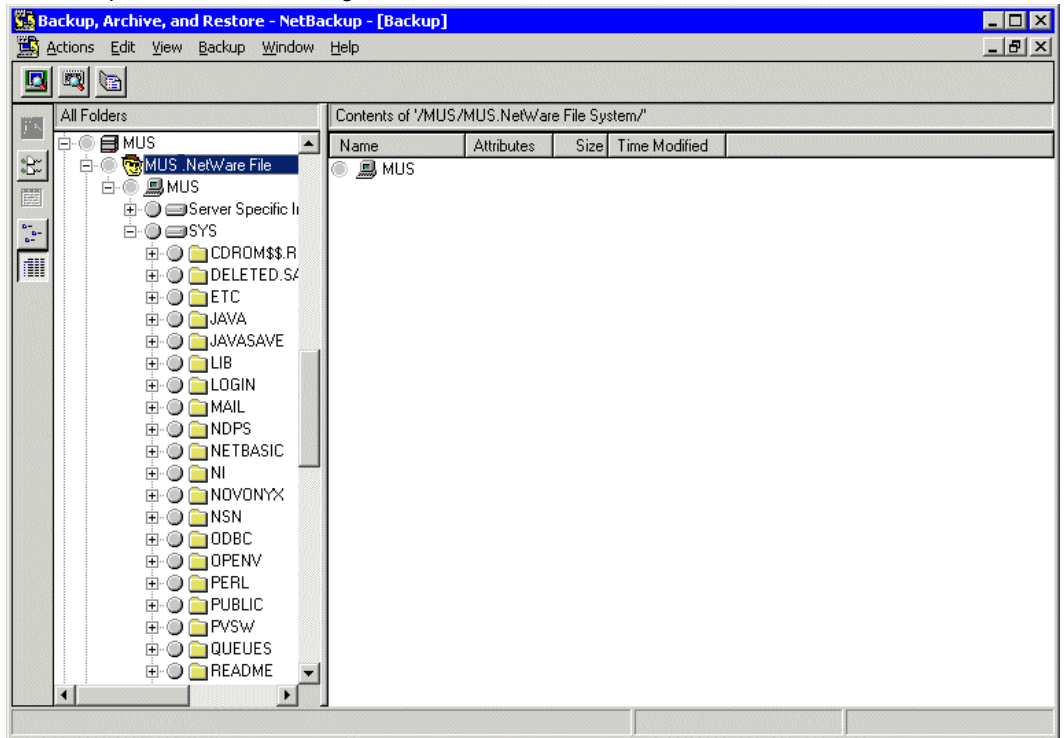
See also:

"Defining Targets to Back Up" on page 53

"Understanding the BP.INI File" on page 22

Differences Between the Target and NonTarget Methods

There are several differences between the Target and NonTarget methods besides the user interfaces.

In addition to requiring the configuration of targets, the Target method:

◆ Requires only TCP/IP; IPX is *not* required.

◆ Allows *multi-streaming*, the sending of multiple streams of data from the NetWare Client to the NetBackup server.

◆ Uses the **Standard** policy, or class type.

◆ Uses the file list format */targetname* or *targetname.*

> **Note** A forward slash (/) precedes the target name in the **File list** for version 3.4, but no forward slash is needed for newer versions.

Main characteristics of the NonTarget method include:

◆ Requires the Novell Client for Windows be installed and enabled to see the NetWare volumes in your selection list.

◆ Requires IPX/SPX to run the NetBackup for NetWare NonTarget Browser. The actual backup uses TCP/IP.

◆ Launches user-directed backups and restores from a Windows computer using the NetBackup for NetWare NonTarget Browser.

◆ Uses single streaming of data.

◆ Uses the **NetWare** policy, or class type.

◆ Uses the file list format /.

See also:

"Minimum System Requirements" on page 7

Advantages/Disadvantages of the Two Methods

Both the Target and NonTarget method offer advantages and disadvantages.

For the Target method, advantages include:

◆ Backups and restores of a NetWare server can be done in an IP only environment.

◆ Data can be multi-streamed.

Disadvantages of the Target method are:

◆ User-directed backups and restores are done by a character-based interface, rather than graphical user interface.

◆ Targets must be set up with bp.nlm.

Advantages of the NonTarget method are:

◆ The use of a graphical user interface (NetBackup for NetWare NonTarget Browser) makes it easier to set up jobs.

◆ Targets do not have to be set up.

Disadvantages of the NonTarget method include:

◆ Data cannot be multi-streamed.

◆ IPX is required on both the NetWare server and the Windows workstation.

◆ Memory availability on the workstation can impact performance of the graphical user interface.

Terms

The terms listed in the table below are used in this documentation.

Term	Definition
Application Program Interface (API)	A language and message format used by an application program to communicate with the operating system or some other control program such as a database management system (DBMS) or communications protocol.
Microsoft Windows, Windows	Terms used as nouns to describe a line of operating systems developed by Microsoft, Inc.
	A term used as an adjective to describe a specific product or noun. Some examples are: Windows 95, Windows 98, Windows NT, Windows 2000, Windows servers, Windows clients, Windows platforms, Windows hosts, and Windows GUI.
	Where a specific Windows product is identified, then only that particular product is valid with regards to the instance in which it is being used.
	For more information on the Windows operating systems that NetBackup supports, refer to the VERITAS support web site at `http://www.support.veritas.com`.
Multi-streaming	The sending of multiple streams of data from the NetWare Client to the NetBackup server.
NonTarget	One of two NetWare Client methods that allow user-directed backups and restores of a NetWare server. This method uses the NetBackup for NetWare NonTarget Browser, which is installed on and run from a Windows computer.
Storage Management Data Requestor (SMDR)	The communication module in the SMS architecture, the SMDR provides transparent access to SMS services in an intranet by exposing a set of SMS APIs which can be used to access local or remote SMS services.
Storage Management Services (SMS)	Software, which allows data to be stored and retrieved on NetWare servers independent of the file system the data is maintained in (DOS, OS/2, Mac, etc.).

Term	Definition (continued)
Target	One of two NetWare Client methods that allow user-directed backups and restores of a NetWare server. This method uses a character-based menu-driven interface that runs on the NetWare file server console. This term is also used to mean the collection of data being backed up.
Windows clients	A term that defines the Windows client platforms that NetBackup supports; those platforms are: Windows 95, 98, Me, NT, 2000, XP (for 32- and 64-bit versions), and LE.
Windows servers	A term that defines the Windows server platforms that NetBackup supports; those platforms are: Windows NT, Windows 2000, and Windows 2003 Servers.

Installing the NetWare Client   **2**

Installing the NetWare Client differs slightly depending on whether you plan to use the Target method or use the NonTarget method for user-directed backups. For both methods, you must remotely install the NetWare Client software to the NetWare server from a Windows computer. If you plan to use the NonTarget method, the installation steps will also include installing the NetBackup for NetWare NonTarget Browser to the local Windows computer.

Before beginning installation procedures, ensure that you have all of the information needed for the installation and that your systems meet the minimum requirements.

Minimum System Requirements

Before installing the NetWare Client, you must determine if you will be using the Open File Backup Option; this information is used in the install process. Additional information needed includes:

◆ Name of the NetWare server that will be configured as NetBackup's NetWare Client.

◆ IP address for the NetWare server.

◆ Names of the NetBackup master server and any additional NetBackup media servers.

◆ Port numbers that will be used for bpcd and bprd.

The Windows workstation being used for installing the NetWare Client must meet the following minimum requirements:

◆ Windows 95, Windows 98, Windows NT, Windows 2000, Windows XP, or Windows Server 2003 must be installed.

◆ Microsoft Client for NetWare, Microsoft Gateway Services, or Novell Client for Windows must be installed and enabled to see the NetWare servers.

Your NetWare server must meet the following requirements:

◆ NetWare must be installed along with the latest patches.

◆ TCP/IP must be enabled and bound to the NetWare server.

◆ Forward and Reverse name resolution must be available.

◆ Novell's Storage Management Services (SMS) must be installed; this includes SMDR and the TSAs.

For the NonTarget method, you must also have SPX/IPX enabled and bound to the NetWare server; SPX/IPX is *not* required for the Target method.

Also for the NonTarget method, the workstation where the NetBackup for NetWare NonTarget Browser will run must meet the following requirements:

◆ Windows 95, Windows 98, Windows NT, Windows 2000, Windows XP, or Windows Servers 2003 must be installed.

◆ Novell Client for Windows must be installed and enabled to see the NetWare volumes in your selection list.

◆ SPX/IPX is required for connections to the NetWare server.

Adding Information to the Hosts File

The IP addresses for the NetWare servers you want to communicate with must be included in the system's Hosts file for the NetBackup master and the NetBackup media servers. The NetBackup master and media server IP addresses must be in the hosts file for the NetWare server.

Note To ensure that name resolution is properly working, you may want to have your NetWare server ping by name your NetBackup master and media servers, and have your NetBackup master and media servers ping by name your NetWare server.

▼ **To add your NetWare server's address to the NetBackup master or media server's hosts file:**

1. Open the Hosts file with a text editor, such as Notepad.

2. On a blank line, type the IP address of the NetWare server, followed by at least one space, and then the server's name.

3. Save the Hosts file.

Note The Hosts file should *not* have a file name extension.

▼ **To add an IP address to the NetWare server's hosts file:**

1. At the system console, type:

```
load edit sys:etc\hosts
```

2. Press Enter.

3. On a blank line, type the IP address of the NetBackup master server, followed by at least one space, and then the server's name.

4. On a separate blank line, type the IP address of the NetBackup media server, followed by at least one space, and then the server's name.

5. Repeat step 4 for each media server that will be used to back up the NetWare server's data.

6. Save the Hosts file.

Note The Hosts file should *not* have a file name extension.

Installing the NetWare Client

▼ **To install the NetWare Client:**

1. From a Windows workstation, insert the installation CD.

2. Click **NetBackup Installation**.

3. Click **Start NetBackup Client Installation**.

4. Click **NetBackup for NetWare Client**.

The Welcome window appears.

5. Click **Next** to proceed with the installation.

The Software License Agreement appears.

6. After reading this information, select **I accept the terms of the license agreement**, and then click **Next**.

7. Select the components you want to install. Options are:

◆ **NetWare Server**. Select this option to install the NetWare Client to the NetWare server that will be the NetBackup Client or to install the Open File Backup Option to the NetWare server. Selecting this option also installs the Target user interface to the NetWare server.

◆ **Local Workstation**. Select this option to install the NetWare Client's NonTarget Browser to this local Windows workstation. In order to use the NonTarget Browser, you must install the NetWare Client to a NetWare server.

8. Click **Next**.

9. If you selected to install to the NetWare server:

    a. Select the server components you want to install. Options include:

        ◆ **NetBackup Client for NetWare**. Select this option to install the NetWare Client and the NetWare Client's server-based user interface to your NetWare server.

        ◆ **Open File Backup Option**. Select this option to install the Open File Backup Option, which allows you to back up open files without locking them.

    b. Click **Next**.

    c. Select the NetWare server on which the NetWare Client files will be installed.

        ◆ If the system appears in the list of **Available Servers**, select the server and click the right arrow key to move the server to the **Destination Systems** list.

        ◆ If you want to add an additional system that does not appear in the list, click **Manually add additional systems**, and then type the name of the server.

    d. Click **Next**.

    e. If you are not already connected to the NetWare server, click the server icon, enter the Administrator user name and password for accessing the NetWare server, and then click **Connect**.

    f. Click **Next**.

    g. Verify the settings that have been selected for the NetWare server. To change settings, click **Back** and reselect. If you are satisfied with the selected settings, click **Next**.

    h. Click **Yes** if you want the NetWare Client to load automatically when the server starts; otherwise, click **No**.

10. If you selected to install to the local workstation:

      a. Select the components you want to install. Options are:

         ◆ **NetBackup Client for NetWare NonTarget Browser**. Select his option to install the NetBackup for NetWare NonTarget Browser (NetWare Client's Backup, Archive, and Restore interface) to your local Windows workstation.

         ◆ **NetBackup Client for NetWare Documentation**. Select this option to install the NetWare Client documentation to this local workstation.

      b. Click **Next**.

> **Note** If another NetBackup program has been installed on the workstation, steps C and D will automatically be skipped and the existing path and program folder will be used.

      c. Ensure the correct installation path is selected for the NonTarget Browser to be installed on this local workstation, and then click **Next**.

      d. Ensure the program folder where you want the NetBackup icons added is selected, and then click **Next**.

      e. Verify the settings that have been selected for the local workstation. To change settings, click **Back** and reselect. If you are satisfied with the selected settings, click **Next**.

         You can monitor the status of the local workstation installation.

11. Click **Finish** to view the readme and complete the installation.

Upgrading from Previous Versions

This version of the NetWare Client uses the default directory structure `SYS:\VERITAS\NBUCLT` for all NetWare Client software.

If you are upgrading from a previous version of the NetWare Client that did not use the `SYS:\VERITAS\NBUCLT` directory structure, the installation program will automatically copy all existing target files from `SYS:\OPENV\NETBACK\TGTS` to `SYS:\VERITAS\NBUCLT\NETBACK\TGTS`. Your existing BP.INI file will be copied from `SYS:\OPENV\NETBACK` to `SYS:\VERITAS\NBUCLT\NETBACK`. OPENV is renamed to `OPENV.OLD`, but none of the logs are moved.

You do *not* want to delete the older NetWare Client version (`OPENV.OLD`) until after you have successfully installed this version and verified that your existing targets and BP.INI configuration are correctly copied to the new directory. You will be able to browse and restore data that was backed up with the older NetWare Client version. You can save old

log files by copying the files from
`SYS:\OPENV.OLD\NETBACK\LOGS\`*`log_directory`* to
`SYS:\VERITAS\NBUCLT\NETBACK\LOGS\`*`log_directory`*.

Starting the Target User Interface

> **Note** Before you can use the Target user interface (`bp`) to perform a Backup or Restore operation, you must first define a NetWare Target. Refer to "Defining Targets to Back Up" on page 53 for additional information.

1. Start the NetWare Client's Target user interface program, `bp`, by typing the following command on the NetWare file server:

BPSTART

> **Note** After the NetWare Client is started using the BPSTART command, you can type BP to start the Target user interface.

2. Press Enter.

3. When the NetWare Client's Target user interface program starts, the main menu displays on your screen.

Using the Target User Interface Menus

The name of your client and NetBackup master server appear at the top of the Target user interface **Main Menu**.

NetWare Client (Target) Main Menu

```
BP                              NetBackup                        Version 4.5GA
                 Copyright 1993 - 2002 VERITAS Software Corporation

                 NetBackup Server:  bedo3
                 NetBackup Client:  Mus (BROWSER)

                         Main Menu
                         ---------
                         b)  User Directed Backup...
                         r)  Restore Backups...
                         f)  Restore True Image Backups...
                         t)  Target Configuration...
                         n)  NetBackup Configuration...
                         h)  Help
                         q)  Quit Utility

                         ENTER CHOICE: _
```

From the **Main Menu**, you can access other menus, or submenus, which allow you to perform various NetBackup operations. You can also access help and exit the application from this **Main Menu**.

To select an option, type the letter that is to the left of its menu item. Options available from the main menu are described in the following table:

Main Menu Options

Item	Description
b) User Directed Backup	Displays the **User Directed Backup** menu.
r) Restore Backups	Displays the **Restore Backups** menu.
f) Restore True Image Backups	Displays the **Restore True Image Backups** menu.
t) Target Configuration	Creates or modifies backup target configurations.
n) NetBackup Configuration	Sets or changes the NetBackup configuration information.
h) Help	Provides help information for **Main Menu**. Each secondary menu has its own help option.
q) Quit Utility	Terminates the NetBackup user interface and returns you to the system prompt.

Exiting the Target User Interface

▼ **To exit the Target user interface (bp.nlm):**

❖ At the main menu, type:

q

**Note** To return to the main menu from a submenu, type **q**.

Starting the NetBackup for NetWare NonTarget Browser

BPCD.NLM and BPSRV.NLM must be running on your NetWare server before starting the NetBackup for NetWare NonTarget Browser. These NLMs load when you type BPSTART at the NetWare server's console (see "Starting the Target User Interface" on page 12).

1. Choose **Start** > **Programs** > **VERITAS NetBackup** > **NetBackup for NetWare NonTarget Browser**.

The Select Server dialog appears.

Select Server Dialog
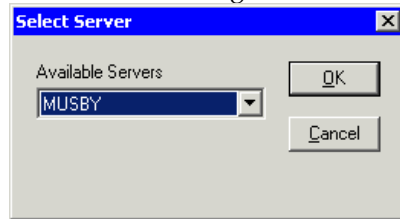
2. Select the name of the NetWare server.
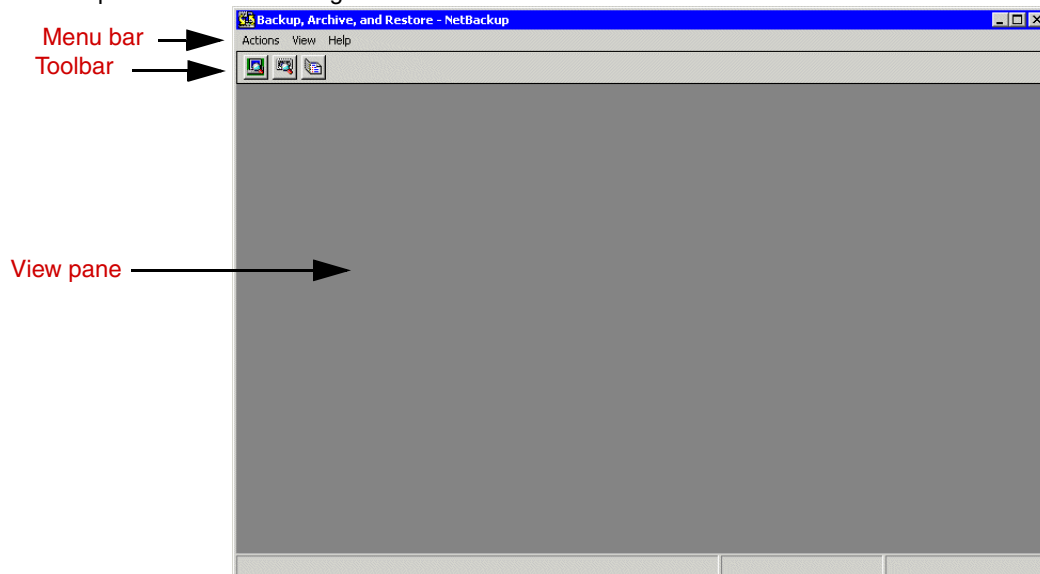
3. Click **OK**.

The NetBackup for NetWare NonTarget Browser (Backup, Archive, and Restore interface) appears.

Using the NetBackup for NetWare NonTarget Browser

The NetBackup for NetWare NonTarget Browser is a graphical user interface run from a Windows workstation and used in the NetWare Client's NonTarget method. The interface features a menu bar and toolbar. A view pane displays information when various menu options are selected. In some cases, a dialog appears when a menu item is selected.

NetBackup for NetWare NonTarget Browser

Available Menus

The NetBackup for NetWare NonTarget Browser's menu bar contains the following options:

◆ **Actions**. This menu contains commands that provide overall control of your NetBackup session.

◆ **Edit**. This menu is available when either the Backup or Restore windows are opened. The commands on the **Edit** menu modify your selections in the currently selected backup or restore window.

◆ **View**. The commands on the **View** menu control the contents of the Backup and Restore windows.

◆ **Backup**. This menu is available when the Backup window is active. The commands on this menu control backup operations.

◆ **Restore**. This menu appears when the Restore window is active. The commands on this menu control restore operations.

◆ **Window**. This menu has commands for arranging your NetWare Client windows. It becomes available when the Backup or Restore windows are opened.

◆ **Help**. This menu provides access to the online instructions for using the NetWare Client.

Toolbar Buttons

The following buttons appear on the toolbar.

Item	Description
	Opens the NetBackup Backup window.
	Opens the NetBackup Restore window.
	Opens the View Status dialog.

Exiting the NetBackup for NetWare NonTarget Browser

Exiting the NetBackup for NetWare NonTarget Browser closes all NetWare Client dialogs and windows. Any backups and restores in progress will continue to completion.

▼ **To exit the NetBackup for NetWare NonTarget Browser:**

❖ On the menu bar, choose **Actions** > **Exit**.

Uninstalling the NetWare Client

You can uninstall the NetBackup for NetWare NonTarget Browser from a Windows workstation by using the Windows **Add/Remove Programs** option. The Target interface is automatically uninstalled when the NetWare Client is removed from the NetWare server. You can remotely remove the NetWare Client from the server using a Windows workstation or locally by deleting the NetWare Client files.

▼ **To remove the NetBackup for NetWare NonTarget Browser:**

1. On the Windows workstation, choose **Start** > **Settings** > **Control Panel**.

2. Double-click **Add/Remove Programs**.

3. Do one of the following:
   - For Windows XP/2000/Me/2003, at the Add/Remove Programs dialog, select **NetBackup for NetWare Non-Target Browser**, and then click **Change/Remove**.
   - For Windows 95/98/NT on the **Install/Uninstall** tab on the Add/Remove Programs dialog, select **NetBackup for NetWare Non-Target Browser**, and then click **Add/Remove**.

4. Click **OK**.

▼ **To remotely uninstall the NetWare Client:**

1. From your NetWare server's system console prompt, type **BPSTOP**, and then press Enter.

2. Type **load NETBASIC**, and press Enter.

3. Type **SHELL**, and press Enter.

4. Type **CD System**.

5. For each of the following files, type **del *file_name***, and press Enter.
   - bpstart.ncf
   - bpstop.ncf

6. Rename or delete the SYS:\VERITAS\NBUCLT directory and all of its associated subdirectories and files.

> **Note** If you are not sure whether you will need any of the files in the NBUCLT directory in the future, you should rename the directory instead of deleting it.

- ◆ To rename the directory, type **REN NBUCLT *new_name***, and press Enter.

- ◆ To delete the directory, type **DEL NBUCLT/*.***, and press Enter for each directory. Then, type **RD NBUCLT**, and press, Enter.

7. Type **EXIT**, and the press Enter.

Configuring the NetWare Client **3**

After installing the NetWare Client, you *must* configure the client's bp.ini file, and, if you are using the Target method, create targets before using the NetWare Client to back up and restore data. If you are using the NonTarget method, you must provide the NetBackup master server permission to access the NetWare server resources for backups (see "Allowing Scheduled Access" on page 69).

The BP.INI file, which is shared by both Target and NonTarget, is the configuration file used by the NetWare Client software to control back up and restore operations on your computer. It is created in the SYS:\VERITAS\NBUCLT directory the first time you run the NetBackup interface program's NetBackup Configuration.

You can set many BP.INI parameters through commands available on the Target's NetBackup Configuration menu (see "Modifying BP.INI Through the Target's NetBackup Configuration Menu" on page 31). Others can be changed only by modifying the file directly with a text editor, such as Notepad.

If you are using the NonTarget method, you create the BP.INI file and modify BP.INI parameters through the NetBackup Configuration dialog (see "Modifying BP.INI Parameters With the NonTarget Method" on page 36).

> **Note** For information on modifying the Open File Backup Option parameters in the BP.INI file, please refer to "Setting Open File Backup Option Parameters" on page 117.

Understanding the BP.INI File

The `BP.INI` file is divided into sections and each section is formatted as follows:

```
[section name]
parameter name = value
```

Where:

[*section name*]	Identifies the start of a new configuration file section.
`parameter name`	Identifies the name of a configuration file parameter.
value	Specifies the value to be set for the associated configuration file parameter.

The following describes each section of the file except [oftb]. Parameters and values for this section are described in "Setting Open File Backup Option Parameters" on page 117. An example file follows these descriptions.

[bp] Section

`ClientName`

Specifies the name of the client as specified during installation. This name must match that in the NetBackup master server policy configuration.

`List_Files_Timeout`

Specifies the number of seconds to wait for a response from the NetBackup server when listing files. If this amount of time is exceeded, the user receives the error "socket read failed" even though the server may still be processing the user's request.

The default value is 300 seconds.

`Restore_Retries`

Specifies the number of times to retry a restore after a failure.

The default is 0 (no retries).

`Time_Overlap`

Specifies the number of minutes added to the date range for incremental backups when using date-based backups. This value can be used to compensate for differences in the speed of the clock between the client and server.

The default is 60 minutes.

`Buffer_Size`

Specifies the size of the TCP/IP buffers that are used to transfer data between the NetBackup server and client. The size is specified in kilobytes. For example, specify 10 for a buffer size of 10 kilobytes.

The minimum allowable value is 2. If you specify a number less than 2, `Buffer_Size` will be set to 2.

The default is 32.

`Use_Archive_Bit`

Specifies whether incremental backups are done based on the archive bit. Supported values are:

yes, which specifies that files are backed up using the archive bit

no, which specifies that files are backed up using the datetime stamp

The default is `yes`.

`Clear_Archive_Bit_Incr_Wait`

The value indicates how long (in seconds) the client will wait for acknowledgment from the server that the backup was successful before clearing the archive bits. If the server does not reply within this time period, the archive bits are not cleared.

`Allow_Server_Write`

Specifies whether the system administrator can initiate a restore from the NetBackup server to this client. The supported values are:

yes, which allows the system administrator to initiate a restore

no, which prohibits the system administrator from initiating a restore

The default is **yes**.

`Case_Sensitive_Exclude_List`

This parameter is not used in this release of NetBackup.

`Perform_Default_Search`

Specifies whether a search is automatically performed for restored files and folders when the Restore window is opened. Supported values are:

`Yes`, which means that a search for restored files and folders is performed automatically when the Restore window is opened. This is default.

`No`, which means that a search for restore files and folders is not automatically performed when the Restore window is opened. The files and folders are not displayed until a manual search is performed.

`Accumulate_Files`

This parameter is not used by the NetWare Client.

`User_Directed_Timeout`

Specifies the amount of time that the client waits for the server to reply back.

The default is 60 seconds.

`Keep_Logs_Days=5`

Specifies how long progress logs are kept on the NetWare Client.

`Announce_DHCP_Interval`

This parameter is not used in this release of NetBackup.

`Allow_Non_Reserved_Ports`

Specifies that NetBackup can use ports 1025 through 5000. This option can be required in order to back up a client that is on the other side of a firewall from the NetBackup server (the firewall must also permit the use of ports 1025 through 5000).

Note The NetWare Client does not support use of the VNETD daemon for minimal port usage.

In addition to adding **Allow_Non_Reserved_Ports** to the client, execute the following commands as root on the master server:

UNIX server:

```
cd /usr/openv/netbackup/bin/admincmd
./bpclient -client client_name -add -connect_nr_port 1
```

Windows NT server:

```
cd install_path/netbackup/bin/admincmd
bpclient -client client_name -add -connect_nr_port 1
```

Where *client_name* is the name of the client to which you added the **Allow_Non_Reserved_Ports** option. On Windows NT, *install_path* is the directory where NetBackup is installed.

`NW_Migrated_Files`

Specifies whether or not migrated files are migrated back in during a backup. The default is no.

`NW_Uncompressed`

Specifies whether or not compressed files are decompressed during a backup. The default is no.

`Version`

> Specifies the NetBackup release level that was installed on this computer. Do not modify this value.

`Error_Messages_Max`

> Specifies how many times the same message should be logged in the debug logs during a backup or restore. If the messages occur more times than the parameters set, the messages occurring after the specified value are not logged.

`Generate_English_Logs`

> This value is not used by the NetWare Client.

[exclude] Section

> This section is not used by the NetWare Client.

[include] Section

> This section is not used by the NetWare Client.

[servers] Section

> Specifies the hosts that can be a NetBackup server for this client. The master server must be first in the list.

[clients] Section

> Specifies the names of the clients whose backup images you can browse for files to restore. The NetBackup master server administrator must provide you permission to browse and restore from any client other than the one from which you are running NetBackup.

[tcpip] Section

`bpcd`

> Specifies the port number that the NetBackup client NLM on the NetWare file server uses to receive communications from the NetBackup server. Always use the default value unless the system administrator on the master server has told you to change it.
>
> The default is 13782.

bprd

> Specifies the port number used by the NetBackup request daemon, bprd, which executes on the master server. Client requests go to **bprd** on the master server. Always use the default value unless the system administrator on the master server has told you to change it.

> The default is 13720.

port_minimum

> Specifies the minimum value that a nonreserved port can have.

port_maximum

> Specifies the maximum value that a nonreserved port can have.

port_minimum_reserved

> Specifies the minimum value that a reserved port can have.

port_maximum_reserved

> Specifies the maximum value that a reserved port can have.

Required_Interface

> This parameter is not used by the NetWare Client.

[user] Section

Archive_Class

> This parameter is not used by the NetWare Client.

Archive_Sched

> This parameter is not used by the NetWare Client.

Backup_Class

> Specifies the policy name to use for user-directed backups. This parameter is used only on the client. The default is to use the first policy found that contains the client and a user-directed backup schedule.

Backup_Sched

> Specifies the schedule name to use for user-directed backups. This parameter is used only on the client. The default is to use the first user-directed backup schedule in the first policy found that contains the client and a user-directed backup schedule.

Resource

> Shows the resource that can be selected for scheduled backups. This information is added through the **Allow Scheduled Access** option on the NetWare NonTarget Browser (see "Configuring Resources" on page 51).

Namespace

> Shows the namespace for the listed resource. The possible values are: No Namespaces, Directory Namespace, DOS Namespace, FTAM Namespace, NFS Namespace, MAC Namespace, OS2 (Long) Namespace. This information is added through the **Allow Scheduled Access** option on the NetWare NonTarget Browser (see "Configuring Resources" on page 51).

UserName

> Shows the user name that the server will use to back up the resource. This information is added through the **Allow Scheduled Access** option on the NetWare NonTarget Browser (see "Configuring Resources" on page 51).

Password

> Maintains an encrypted record of the password the server will use to back up the resource. This information is added through the **Allow Scheduled Access** option on the NetWare NonTarget Browser (see "Configuring Resources" on page 51).

Note For each resource that the NetBackup master has been given access to perform scheduled backups, a Resource, Namespace, UserName, and Password parameter appears in the bp.ini file.

[debug] Section

The parameters in this section control the amount of information that NetBackup writes to its BP and BPCD debug logs created during the install and stored in SYS:\VERITAS\NBUCLT\NETBACK\LOGS. These parameters should only be changed if asked to do so by technical support.

◆ BP logs have information about user operations, such as backups and restores.

◆ BPCD logs have information about the NetBackup client NLM (Netware Loadable Module).

See "Using Log Files" on page 50 or refer to either the *VERITAS NetBackup System Administrator's Guide for UNIX* or the *VERITAS NetBackup System Administrator's Guide for Windows* for more information on using debug logs.

Note Debug logs can consume a lot of disk space. Delete them when they are no longer needed.

flush	Controls the level at which the log files are flushed, or committed from memory to disk. The higher the flush level the more often the log file is flushed. Supported values are 0, 1, or 2. The default is 0.

heap	This parameter is not used in this release of NetBackup.
level	Sets the debug level. Supported values are 0, 1, or 2. The higher the level, the more information that is written to the log files. The default is 0.

Note Setting level to 1 or 2 can cause the log files to be very large.

tcp	This is used for debug purposes and enables tcp debugging. Supported values are:

0 - No extra logging.
1 - Log basic tcp/ip functions.
2 - Log all tcp/ip functions including all read and write requests.
3 - Log contents of each read/write buffer.

Note Setting tcp to 2 or 3 can cause the log files to be very large.

[encryption] section

This section is not used by the NetWare Client.

[compress] section

Use

If set to 1 the client will compress data during backup even though compression may not be set in the policy.

Buffer_Size

Controls the size of the internal buffers that are used for compression. This field should not be changed by the user.

Minimum_Size

Controls the minimum size that a file must be in order for it to be compressed.

Example BP.INI File

The following is an example of a typical BP.INI file:

```
[bp]
ClientName = nwclient
List_Files_Timeout = 300
Restore_Retries = 0
Time_Overlap = 60
Buffer_Size = 32
Use_Archive_Bit = yes
Clear_Archive_Bit_Incr_Wait = 300
Allow_Server_Write = yes
Case_Sensitive_Exclude_List = no
Perform_Default_Search = no
Accumulate_Files = no
User_Directed_Timeout = 300
Keep_Logs_Days = 5
Announce_DHCP_Interval = 0
Allow_Non_Reserved_Ports = no
NW_Migrated_files = no
NW_Uncompress = no
Version = 450
Error_Messages_Max = 10
Generate_English_Logs = no

[exclude]

[include]

[servers]
master = telthor
server = windows
server = dionysus
server = cattail
server = dagon
server = carrot

[clients]
browser = buck

[tcpip]
bpcd = 13782
bprd = 13720
port_minimum = 0
port_maximum = 0
port_minimum_reserved = 512
```

```
port_maximum_reserved = 1023
Required_Interface =

[user]
Archive_Class = any
Archive_Sched = any
Backup_Class = any
Backup_Sched = any
Resource = /BUCK/BUCK.NetWare File System/BUCK/USER
Namespace = 4
UserName = .admin.VERITAS
Password = AAWXYZJBGOKHHNMNHM
Resource = /BUCK/BUCK.NetWare File System/BUCK/Server Specific Info
Namespace = 4294967295
UserName = .admin.VERITAS
Password = AAIBLDBFGFGFGFGCBB
Resource = /BUCK/BUCK.NetWare File System/BUCK/SYS
Namespace = 4
UserName = .admin.VERITAS
Password = AAIEIEIEIEIEIDGCBB
Resource = /BUCK/BUCK.Novell Directory/SIMPSON/Schema
Namespace = 4294967295
UserName = .admin.VERITAS
Password = AACQRSABCUVWXHLKPE
Resource = /BUCK/BUCK.Novell Directory/SIMPSON/SIMPSON
Namespace = 4294967292
UserName = .admin.VERITAS
Password = AAMICLKEYIHMOUSEPE

[debug]
flush = 0
heap = 0
level = 0
tcp = 0

[encryption]
Crypt_KeyFile =
Crypt_LibPath =
Crypt_Option = 0
Crypt_Strength = 40

[compress]
Use = 0
Buffer_Size = 61
Minimum_Size = 512
```

Modifying BP.INI Through the Target's NetBackup Configuration Menu

The Target's **NetBackup Configuration** menu allows you to set and modify NetBackup configuration parameters saved in the bp.ini file. For information about setting and modifying bp.ini file parameters using the NonTarget method, see "Modifying BP.INI Parameters With the NonTarget Method" on page 36.

▼ **To display and use the NetBackup Configuration menu:**

1. On the Target's **Main Menu**, type **n**.

NetBackup Configuration Menu

```
NetBackup Configuration
-----------------------
c)   Change NetBackup Client Name...
n)   Change Network Parameters...
s)   NetBackup Server Configuration...
b)   NetBackup Client Configuration...
h)   Help
q)   Quit

ENTER CHOICE: _
```

2. To execute a command from this menu, type the letter that is to the left of the menu item.

The Menu choices are as follows:

NetBackup Configuration Menu Options

Item	Description
c) Change NetBackup Client Name	Allows you to change your NetWare file server name. You *must* be sure that the value you type here is the same as the name added to the NetBackup server policy configuration by your system administrator.
n) Change Network Parameters	Allows you to change network parameters. These include the port numbers that NetBackup uses to communicate between the NetWare Client and NetBackup Server.
s) NetBackup Server Configuration	Allows you to add and delete server names from the defined list of servers, and set the master server name.
b) NetBackup Client Configuration	Allows you to add and delete names from the defined list of clients.

NetBackup Configuration Menu Options (continued)

Item	Description
h) Help	Provides help for information on this menu.
q) Quit	Returns you to the main menu.

Changing the NetBackup Client Name

The NetBackup Client Name is the name of the NetWare server as defined in the NetBackup server class configuration by your NetBackup system administrator. If the name does not match the name defined by the NetBackup system administrator, backup and restore operations will not function correctly.

You can change the NetBackup Client Name through the Target interface's NetBackup Configuration Menu.

▼ **To change the NetBackup Client Name:**

1. On the Target's **Main Menu**, type **n**.

2. On the **NetBackup Configuration** menu, type **c**.

3. Type the **NetBackup Client Name**, and then press Enter.

Changing Network Communication Ports

You can change the network ports used by NetBackup and the NetWare Client for backup, restore, and search operations.

The NetBackup Client Daemon Port, or BPCD Port, is the port on which the NetWare Client listens for connections from the NetBackup master server, media servers, and administration consoles. A NetBackup server connects to the NetWare Client to perform backups and restores and to modify configuration information. The NetBackup Request Daemon Port, or BPRD Port is the port the NetWare Client uses to connect to the NetBackup master server in order to submit backup, restore, and browse requests.

These port numbers should be defined by your NetBackup System Administrator. Both the NetBackup Master Server and the NetWare Client must be configured with the same ports.

▼ **To change network ports for the NetWare Client:**

1. On the Target's **Main Menu**, type **n**.

2. On the **NetBackup Configuration** menu, type **n**.

3. Type the new **BPCD Port number**, or press Enter to accept the current setting. The default is 13782.

4. Type the new **BPRD Port number**, or press Enter to accept the current setting. The default is 13720.

Changing NetBackup Server Configuration

The NetBackup Server Configuration menu provides choices for adding and deleting names from the defined list of NetBackup servers and setting the NetBackup Master server name. Display this menu by typing **s** (NetBackup Server Configuration) at the NetBackup Configuration menu.

NetBackup Server Configuration Menu

```
NetBackup Server Configuration
------------------------------
a)  Add NetBackup Servers...
d)  Delete NetBackup Servers...
m)  Change Master NetBackup Server...
h)  Help
q)  Quit

ENTER CHOICE: _
```

The menu choices are as follows:

NetBackup Server Configuration Menu Options

Item	Description
a) Add NetBackup Servers	Allows you to add names to the defined list of NetBackup servers.
d) Delete NetBackup Servers	Allows you to delete server names from the defined list of NetBackup servers.
m) Change Master NetBackup Server	Allows you to change which NetBackup server is designated as the master server.
h) Help	Provides help for information on this menu.

NetBackup Server Configuration Menu Options (continued)

Item	Description
q) Quit	Returns you to the NetBackup Configuration menu.

▼ **To add a NetBackup Server to the server list:**

1. On the Target's **NetBackup Server Configuration** menu, type **a**.

2. Type the name of the NetBackup server you want to add, and then press Enter.

3. After adding all NetBackup servers you want to appear on the server list, press Enter to return to the **NetBackup Server Configuration** menu.

▼ **To delete a NetBackup Server from the server list:**

1. On the Target's **NetBackup Server Configuration** menu, type **d**.

2. Type the number of the NetBackup server you want to delete, and then press Enter.

3. After deleting all NetBackup servers that you want to remove from the server list, press Enter.

▼ **To change the NetBackup master server:**

1. On the Target's **NetBackup Server Configuration** menu, type **m**.

2. Type the number of the NetBackup server you want the NetWare Client to use as the NetBackup master server, and then press Enter.

Changing NetWare Client Configuration

The NetBackup Client Configuration menu allows you to add and delete names from the defined list of NetWare Clients and to change the name of the NetWare Client used when browsing in search and restore operations. Display the menu by typing **b** (NetBackup Client Configuration) at the NetBackup Configuration menu.

NetBackup Client Configuration Menu

```
NetBackup Client Configuration
------------------------------
a)  Add NetBackup Clients...
d)  Delete NetBackup Clients...
c)  Change NetBackup Browse Client...
h)  Help
q)  Quit

ENTER CHOICE: _
```

The menu choices are as follows:

NetBackup Client Configuration Menu Options

Item	Description
a) Add NetBackup Clients	Allows you to add names to the defined list of NetWare clients.
d) Delete NetBackup Clients	Allows you to delete client names from the defined list of NetWare clients.
c) Change NetBackup Browse Client	Allows you to change which NetWare Client is designated as the browser.
h) Help	Provides help for information on this menu.
q) Quit	Returns you to the NetBackup Configuration menu.

▼ **To add a NetWare Client to the NetBackup Clients list:**

1. On the Target's **NetBackup Client Configuration** menu, type **a**.

2. Type the name of the NetWare Client you want to add, and then press Enter.

3. After adding all NetWare Clients you want to appear on the client list, press Enter to return to the **NetBackup Client Configuration** menu.

▼ **To delete a NetWare Client from the NetBackup Clients list:**

1. On the Target's **NetBackup Client Configuration** menu, type **d**.

2. Type the number of the NetWare Client you want to delete, and then press Enter.

3. After deleting all NetWare Clients that you want to remove from the client list, press Enter.

▼ **To change the NetBackup Browse Client:**

1. On the Target's **NetBackup Client Configuration** menu, type **c**.

2. Type the number corresponding to the NetWare Client you want NetBackup to use for browsing, and then press Enter.

Modifying BP.INI Parameters With the NonTarget Method

The NonTarget's NetBackup Configuration dialog allows you to set and modify NetBackup configuration parameters saved in the bp.ini file. For information about setting and modifying bp.ini file parameters using the Target method, see "Modifying BP.INI Through the Target's NetBackup Configuration Menu" on page 31.

▼ **To modify BP.INI parameters using the NetBackup for NetWare NonTarget Browser:**

1. From the NetBackup for NetWare NonTarget Browser, choose **Actions** >**Configure**.

   The NetBackup Configuration dialog appears as a tabbed page. Clicking on a tab brings up a specific set of options. The tabs and their options are described in the following sections:

   "Setting General Configuration Options" on page 37

   "Setting Server Configuration Options" on page 40

   "Configuring Clients" on page 42

   "Configuring Network Communication Ports" on page 44

   "Configuring Backups Options" on page 46

   "Setting Troubleshooting Options" on page 48

   "Configuring Resources" on page 51

2. Enter or select options from the tabbed dialog.

3. After entering all options, click **OK**.

Setting General Configuration Options

On the NetBackup Configuration dialog, select the **General** tab to set general configuration parameters used by the NetWare Client.

General Tab for NetBackup Configuration

Options on the **General** tab include:

General Options for NetBackup Configuration

Item	Description
Client name	Specify the name of your NetWare Client. This name is used when backing up and restoring files or folders. The client name in the NetBackup server policy configuration must match the client name specified here.

General Options for NetBackup Configuration (continued)

Item	Description
List files timeout	Specify the number of seconds to wait for a response from the NetBackup master server when listing files. If this amount of time is exceeded, the user receives the "socket read failed" error even if the server is still processing the user's request.
	The default is 300 seconds. The minimum setting is 0. The maximum setting is 36,000 seconds.
Restore retries	Specify the number of times to retry a restore after a failure.
	The default is 0, which is no retries. The maximum setting is 999.
Time overlap	Specify the extra number of minutes to add to the date range for incremental backups when using date-based backups. This value can be used to compensate for differences in the speed of the clock between the client and NetBackup server.
	The default is 60 minutes. The minimum setting is 0. The maximum setting is 1,440 minutes.
User directed operation timeout	Specify the number of seconds to wait for a response from the NetBackup master server when performing user-directed operations. If this amount of time is exceeded, the user receives the "socket read failed" error even if the server is still processing the user's request.
	The default is 60 seconds. The minimum setting is 0. The maximum setting is 32,400 seconds.
Days to keep operation status	Specify the number of days to store progress reports before the system will automatically delete them.
	Default is 3 days. The minimum allowable value is 0. The maximum is 9,999.

General Options for NetBackup Configuration (continued)
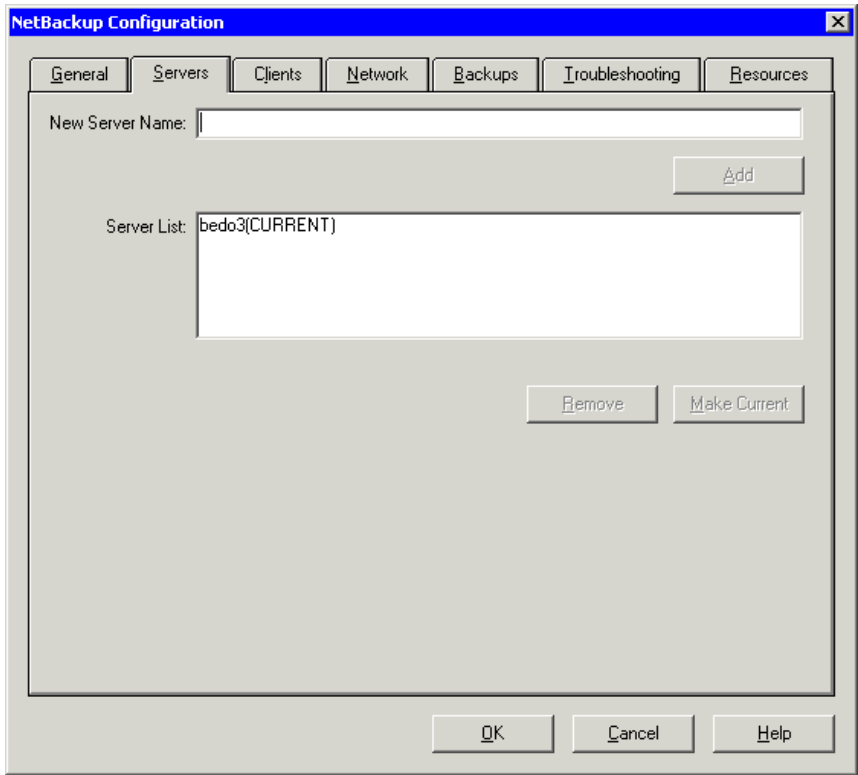
Item	Description
Perform incrementals based on archive bit	Select this check box to include files in an incremental backup only if their archive bit is set. The system sets this bit whenever a file is changed and it will remain set until NetBackup clears it. A full backup always clears the archive bit. A differential-incremental backup clears the archive bit if all files are successfully backed up and the NetBackup master server responds back to the NetWare Client within the number of seconds indicated by the `Clear_Archive_Bit_Incr_Wait` parameter. A cumulative-incremental backup or user backup has no effect on the archive bit.
	Clear this checkbox to have NetBackup include a file in an incremental backup only if the file's date and time stamp has been changed since the last backup. For a cumulative-incremental backup, NetBackup compares the file's time stamp against the last full backup. For a differential-incremental backup, NetBackup compares the time stamp against the last full backup or incremental backup.
	If you install or copy files from another computer, the new files retain the date and time stamp of the originals. If the original date is before the last backup date on this computer, then the new files will not be backed up until the next full backup, whichever is most recent.
Allow server directed restores	Select this check box to let the administrator on the NetBackup server initiate restores to the NetWare Client. The default is to allow server-directed restores.
Perform default search	Select this check box to have NetBackup automatically search the default range of backup images and display the backed up folders and files whenever a restore window is opened.
	Clear this box to disable the initial search. The NetWare Client's Restore window will not show any files or folders when initially opened. Clicking a backup image, or selecting a range of backup images, will initiate a search.
	By default, this box is selected.
Backup migrated files (files will be moved to the hard drive)	Select this option to have files that have been moved to secondary storage moved back to primary storage and backed up by NetBackup. If the option is not selected (which is the default), only the metadata for the file is backed up and the file is not moved back to primary storage.
Uncompress files before backing up	Select this option to have compressed files uncompressed before backing up. This option is useful if the file will be restored to a volume on NetWare that does not support compression. If the option is not selected (which is the default), the file will be backed up in its compressed state.

Setting Server Configuration Options

On the NetBackup Configuration dialog, select the **Servers** tab to add and remove NetBackup servers and to specify the NetBackup master server to be used for user-directed backup and restore operations.

Servers Tab

The **Servers** tab contains the following options:

Servers Tab Options

Item	Description
New Server Name	To add another NetBackup server to the **Server List**, type the name of the new server in the **New Server Name** text box and click **Add**. The name must be as defined by the system administrator on that server.
Add	Click this button to add a server to the **Server List**.

Servers Tab Options (continued)

Item	Description
Server List	Shows the names of the NetBackup servers that require access to the NetWare Client for scheduled backups, and any other servers used when performing user-directed backups. The master server and any remote media servers that perform scheduled backups of the client must appear in this list. The machine designated as CURRENT will be the server used for user-directed operations.
	To mark a server as CURRENT, select a server from the **Server List** and click **Make Current**. The word CURRENT appears in parentheses beside the name.
	Caution Be careful about removing servers from the list, as it may cause scheduled backups to fail.
Remove	Removes a server. First highlight the server in the **Server List**, then click **Remove**.
Make Current	Makes the selected server the current server. Highlight the server in the **Server List**, then click **Make Current**.

Configuring Clients

On the NetBackup Configuration dialog, select the **Clients** tab to add and delete names from the defined list of NetWare Clients and to change the name of the NetWare Client used when browsing in search and restore operations.

Note Most changes made to the **Clients** tab will not apply to currently open backup or restore windows. If, however, a client is added, the open windows will be able to switch to them.

Clients Tab

NetWare Client System Administrator's Guide
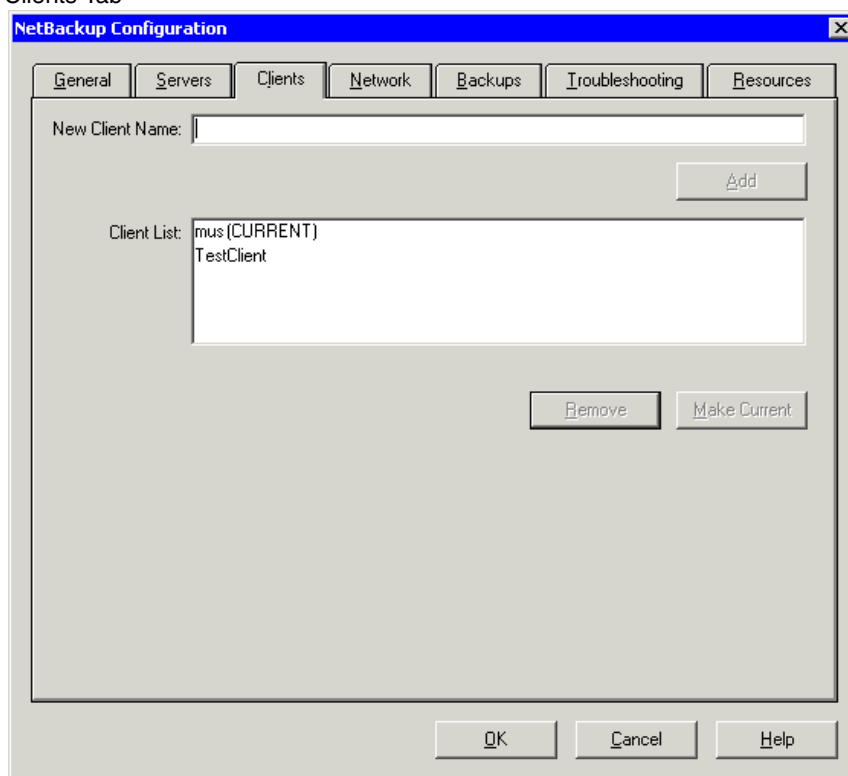
Options on the **Clients** tab are as follows:

Clients Tab Options

Item	Description
New Client Name	To add another client name to the **Client List**, type the name of the new NetWare Client in the **New Client Name** box and click **Add**. The client name entered must also be defined in a policy on the NetBackup server.
Add	Adds the client entered in the **New Client Name** box to the **Client List**.
Client List	The **Client List** contains the names of NetWare Clients on which you can perform NetBackup operations.
	The NetBackup server administrator must set up the required permissions before you can browse and restore from any NetWare Client.
	To perform a NetBackup operation on a NetWare Client, select the name from the **Client List** and click **Make Current**. The word CURRENT appears in parentheses beside the name of the new default client.
Remove	Removes a client from the **Client List**. First highlight the client in the **Client List**, then click **Remove**.
Make Current	Designates the client backup images you can browse for restore operations. First highlight the client in the **Client List**, then click **Make Current**.

Configuring Network Communication Ports

On the NetBackup Configuration dialog, select the **Network** tab to view and change the port numbers used during communications between your NetWare Client and the NetBackup master server.

The NetBackup Client Daemon Port, or BPCD Port, is the port on which the NetWare Client listens for connections from the NetBackup master server, media servers, and administration consoles. A NetBackup server connects to the NetWare Client to perform backups and restores and to modify configuration information. The NetBackup Request Daemon Port, or BPRD Port is the port the NetWare Client uses to connect to the NetBackup master server in order to submit backup, restore, and browse requests.

These port numbers should be defined by your NetBackup System Administrator. Both the NetBackup Master Server and the NetWare Client must be configured with the same ports.

Network Tab
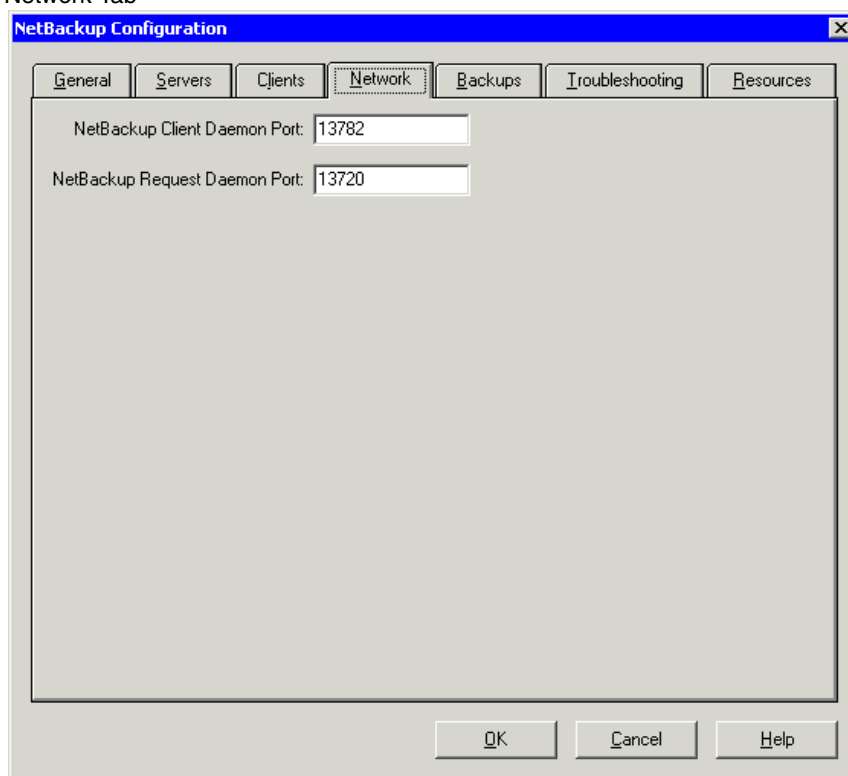
Options on the **Network** tab are as follows:

Network Tab Options

Item	Description
NetBackup Client Daemon Port	Specify the port the NetBackup server uses to communicate with the NetBackup client. The default is 13782.
NetBackup Request Daemon Port	Specify the port to which the client should send requests to the NetBackup request service, `bprd`, on the NetBackup server. The default is 13720.

Configuring Backups Options

On the NetBackup Configuration dialog, select the **Backups** tab to specify the policies and schedules to use when you start a backup from the NetWare Client.

Note Changes made to this tab will not apply to currently open backup windows. The changes will apply to all backup windows opened after the tab modifications have been saved.

Backups Tab

NetWare Client System Administrator's Guide
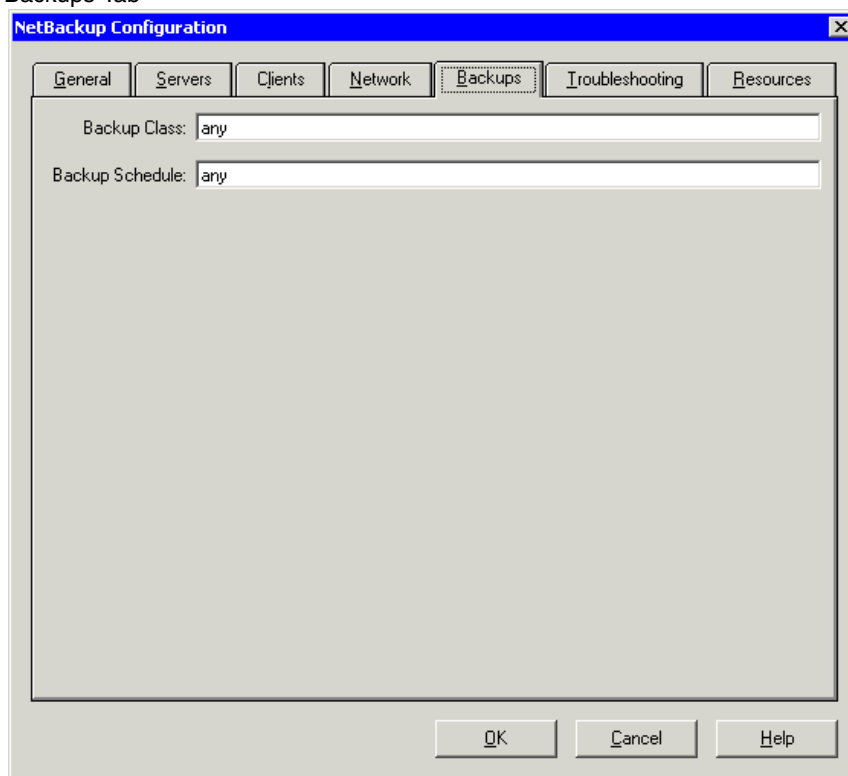
Options on the **Backups** tab are as follows:

Backups Tab Options
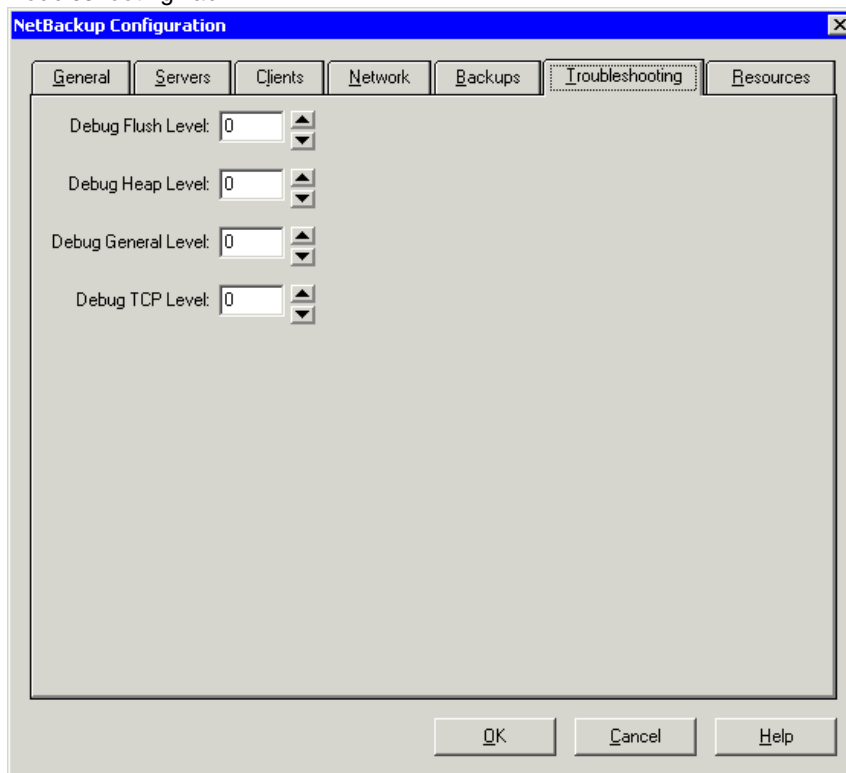
Item	Description
Backup Class	Specify the policy to use for user-directed backups of the NetWare Client. If you set this value to "any" (which is the default), NetBackup uses the first policy that it finds with both the client name and a user-directed backup schedule.
Backup Schedule	Specify the schedule to use for the user-directed backups for the NetWare Client. If you set this value to "any" (which is the default), NetBackup uses the first user-directed backup schedule in the first policy that it finds with both the client name and a user-directed backup schedule.

Setting Troubleshooting Options

On the NetBackup Configuration dialog, select the **Troubleshooting** tab to view and change the amount of information that NetBackup saves in its debug or troubleshooting logs. These options should only be changed if directed to do so by technical support.

Troubleshooting Tab

NetWare Client System Administrator's Guide

Options for the Troubleshooting tab are as follows:

Troubleshooting Tab Options

Item	Description
Debug Flush Level	NetBackup periodically flushes the progress reports on NetBackup operations. This setting specifies the frequency of the flushes or how often the internal buffer gets written to the progress report. The higher the flush level, the more often the buffer is written to the file. Supported values are 0, 1, or 2. The default is 0. Changing the level takes affect during the next backup or restore. BPCD.NLM does *not* need to be unloaded and loaded for changes to take affect.
Debug Heap Level	This parameter is not used in NetBackup 5.0.
Debug General Level	Controls the amount of information that NetBackup writes to the troubleshooting logs. Supported values are 0, 1, or 2. The higher the level, the more information is written. The default is 0.
	Changing the level takes affect during the next backup or restore. BPCD.NLM does *not* need to be unloaded and loaded for changes to take affect.
Debug TCP Level	Used for debug purposes and enables TCP debugging. Supported values are:
	0 No extra logging. This is the default.
	1 Log basic TCP/IP functions.
	2 Log all TCP/IP functions, including all read and write requests.
	3 Log contents of each read/write buffer.
	Note Setting **Debug TCP Level** to 2 or 3 can cause the troubleshooting logs to be very large. It can also slow performance of a backup or restore operation. Changing the TCP debug value does not take affect until the bpcd.nlm is unloaded and loaded.

Using Log Files

During installation of the NetWare Client, log folders are created in the
`SYS:\VERITAS\NBUCLT\NETBACK\LOGS` directory. NetBackup will generate
troubleshooting logs and place these logs in the following folders:

Log Folders

Item	Description
BPCD	Log files in this folder have information useful for troubleshooting communications between your NetBackup client and the NetBackup server. Log files are in the format *mmddyy*`.log` .
BP	Log files in this folder have information on the `bp.nlm` interface.
BPBACK	Log files in this folder have information from user-directed backups using `bp.nlm`. The format for files in this folder is BPBACK.001, BPBACK.002, etc. This log folder is only used if you are using the Target method.
BPREST	Log files in this folder have information from user-directed restores using `bp.nlm`. The format for files in this folder is BPREST.001, BPREST.002, etc. This log folder is only used if you are using the Target method.
BPSRV	Log files in this folder have information on communications between the NetWare server and the NetWare client, pertaining to NetBackup. Log files are in the format *mmddyy*. This log folder is only used if you are using the NonTarget method.
MTFRD	Log files in this folder have information useful for troubleshooting restores from Backup Exec images. Log files are in the format mmddyy.log.
USER_OPS	Log files in this folder are the progress logs that are generated during a user-directed backup or restore using the NonTarget method.

Note If you use Notepad to view the log files, the file will not automatically wrap. Wordpad recognizes the line breaks and properly displays the lines.

See the *VERITAS NetBackup Troubleshooting Guide for UNIX* or the *VERITAS NetBackup Troubleshooting Guide for Windows* for information on using these logs.

Configuring Resources

On the NetBackup Configuration dialog, select the **Resources** tab to configure the resources to be backed up. Until you have selected the **Allow Scheduled Access** option (see "Allowing Scheduled Access" on page 69), fields on this dialog are empty.

Resources Tab

Options on the **Resources** tab are as follows:

Resource Tab Options

Item	Description
Resource	Shows the resource selected for backup. You cannot edit this field. Use the **Previous** and **Next** buttons to browse the list of resources. The **Namespace** text box also changes, as necessary, to show the namespace for the currently displayed resource. To delete a resource from the list, click **Next** or **Previous** as necessary to display it in the **Resource** text box and then click **Remove**.
Namespace	Shows the namespace for the currently displayed resource. You cannot edit this field. The possible values are: No Namespaces, Directory Namespace, DOS Namespace, FTAM Namespace, NFS Namespace, MAC Namespace, OS2 (Long) Namespace.
User Name	Shows the user name that the server will use to back up the currently displayed resource. Editing this field will modify your bp.ini file's [user] section.
Password	Shows the password that the server will use with **User Name** in order to back up the currently displayed resource. Editing this field will modify your bp.ini file's [user] section.
Previous	Use this button to show the previously displayed resource in the list.
Next	Use this button to change the contents of the **Resource** text box to show the next resource in the list.
Remove	Use this button to delete the currently visible resource.
Selection option	Select an item from a list to exclude or include objects from a server-directed backup.
Selection filter	Enter name of object to be excluded or included. Wildcard characters can be used.
Selection filter list	Shows the list of objects to be excluded or included.
Add	After entering a selection filter, click this button to add the new filter to the **Selection filter list**.

Defining Targets to Back Up

In order for NetBackup to back up your NetWare server, you must define the targets to be backed up. A target consists of NetBackup configuration information that defines the collection of information on the NetWare server that is to be backed up.

▼ **To add a target:**

1. Start the NetWare Client's Target user interface interface on the NetWare server (see "Starting the Target User Interface" on page 12).

2. At the **Main Menu**, type **t** to display the **Target Configuration** menu.

   Options for this menu are described in "Using the Target Configuration Menu" on page 55.

3. Type **a** to add a new target.

4. Type the name of the target to be defined.

   The name should be from 1 to 8 characters long and should quickly identify what is contained in the target. For example, if your target is backing up the SYS volume, you may want to name the target Sys.

5. Press Enter.

6. Select the Storage Management Data Requestor from the list presented.

   Normally, this should be the computer on which you are configuring the target. It is the name of the NetWare server that will be running the Storage Management Data Requestor NetWare Loadable Module (SMDR.NLM) used for backups. Select one SMDR for each target you define.

   You may need to type **c** and press Enter several times until the server name appears on the list. Then, type the number corresponding with the server name and press Enter.

7. Select a Target Service Agent from the list presented.

   This list presents the specific Target Service Agents (TSA) available on the selected server. The TSA is the module that knows how to back up and restore a particular set of data on the NetWare server.

8. Select a Target Service associated with the specific Target Service Agent.

   A NetWare server backup will list the names of existing NetWare file servers that can be backed up.You may also see Novell Directories and GroupWise.

9. Type the **Target Service Username**, and then press Enter.

Normally, administrator or equivalent rights are required to back up the NetWare server. The username must contain the full context (for example, .ADMIN.RSVL).

10. Type the **Target Service Password**, and then press Enter.

11. Select the resource to be backed up from the **Available Resources** list.

This list presents the specific resources on the target service that can be backed up. The list of resources presented to you is dependent upon the TSA selected for this target.

◆ Resources for a NetWare server include such items as the:

  ◆ **NetWare server**. This will back up all volumes and server specific information for that server/client.

  ◆ **Server Specific Info**. Server-specific information, applicable to NetWare 4.x and greater, includes five hidden files created at the time of backup, for disaster recovery purposes.

  ◆ Volumes mounted by the server, such as SYS:

◆ Resources for the Novell Directory include:

  ◆ The schema

  ◆ The root of the directory tree

12. Select **Name Space Type**. Possible name space types include DOS, LONG, FTAM, NFS, and MAC.

13. Type **y** to add the target.

Using the Target Configuration Menu

The **Target Configuration** menu allows you to add, delete, and modify targets used for backing up NetWare files and directories. Through this menu, you can also the Common Target Login Menu, which you to use a single login account for multiple targets.

▼ **To display and use the Target Configuration menu:**

1. On the Target's **Main Menu**, type **t**.

2. To execute a command from this menu, type the letter that is to the left of the menu item.

Target Configuration Menu

```
BP                              NetBackup                      Version 5.0GA
                Copyright 1993 - 2004 UERITAS Software Corporation

                         Selected Target:  <ALL>

                         Target Configuration
                         --------------------
                         a)  Add New Target...
                         t)  Change Selected Target Service...
                         s)  Selected Target Selection List Configuration...
                         d)  Delete Selected Target...

                         c)  Change Selected Target
                         l)  List/Display Selected Target
                         i)  List/Display Diagnostic Information
                         o)  Output Destination <SCREEN>
                         u)  Common Target Login
                         h)  Help
                         q)  Quit

                         ENTER CHOICE: _
```

Menu options are as follows:

Target Configuration Menu Options

Item	Description
a) Add New Target	Define a target, located on the NetWare file server, that is to be backed up.
t) Change Selected Target Service	Modify the parameters for the currently selected target.
s) Selected Target Selection List Configuration	Add and remove TSA resources, directories, and files from the backup.
d) Delete Selected Target	Remove the currently selected target.
c) Change Selected Target	Toggle through the list of defined targets.

Target Configuration Menu Options (continued)

Item	Description
l) List/Display Selected Target	Display the selected target.
i) List/Display Diagnostic Information	Display diagnostic information relating to the NetWare file server. This option is provided as a means to allow customer support.
o) Output Destination (SCREEN)	Toggle the output destination between the screen and a file.
u) Common Target Login	Display Common Target Login menu, which allows you to enable, change, or disable Common Target Login information. The NetBackup Common Target Login feature allows you to specify login information that can be used by one or more targets.
h) Help	Provide help for the information on this menu.
q) Quit	Return to the main menu.

Using the Target Selection List Configuration Menu

When you initially define a target, it includes all major TSA resources, directories, and files. Through the Target Selection List Configuration menu, you can add or remove TSA resources, directories, and files from the backup.

▼ **To display the Target Selection List Configuration menu:**

   1. On the Target's **Main Menu**, type **t** to go to the **Target Configuration** menu.

   2. On the **Target Configuration** menu, type **s** to go to the **Target Selection List Configuration** menu.

Target Selection List Configuration Menu

```
Target Selection List Configuration
-----------------------------------
a)  Add Selection List Entry...
d)  Delete Selection List Entry...

l)  List/Display Target
o)  Output Destination (SCREEN)
h)  Help
q)  Quit

ENTER CHOICE: _
```

The menu choices are as follows:

Target Selection List Configuration Options

Item	Description
a) Add Selection List Entry	Add an entry to the backup selection list.
d) Delete Selection List Entry	Remove an entry from the backup selection list.
l) List/Display Target	Display the target information.
o) Output Destination	Toggle the output destination between the screen and a file.
h) Help	Provide help for information on this menu.
q) Quit	Return to the main menu.

Adding a Selection List Entry

The **Add Selection List Entry** menu provides choices for adding and removing TSA resources, directories, and files from the backup. You display this menu by typing **a** (Add Selection List Entry) at the **Target Selection List Configuration** menu.

When you initially define a target, it includes all major TSA resources, directories, and files. If you specify to exclude an entry, then everything except the excluded entries are included. If you specify to include an entry, then only the entries marked for inclusion are included in the backup.

▼ **To add a selection list entry:**

1. On the Target's **Main Menu**, type **t** to go to the **Target Configuration** menu.

2. On the **Target Configuration** menu, type **s** to go to the **Target Selection List Configuration** menu.

3. Type **a**. The Add Selection List Entry menu displays.

Selection Types

```
Add Selection List Entry:
-------------------------

Selection Types:
----------------
   1) Exclude major TSA resources
   2) Include major TSA resources
   3) Exclude directories (full path)
   4) Include directories (full path)
   5) Exclude files
   6) Include files
   7) Exclude path/files
   8) Include path/files
Enter Choice [1-8]:  _
```

4. Select an entry from the list of selection types. The following selection types are available (although this list may differ, depending on the TSA selected):

   ```
   1) Exclude major TSA resources
   2) Include major TSA resources
   ```

   Options 1 and 2 allow you to exclude or include specific Target Service Agent resources. For example, this allows you to set the Target Resource on the NetWare file server to back up the entire NetWare File System, and then exclude the SYS resource.

   ```
   3) Exclude directories (full path)
   4) Include directories (full path)
   ```

   Options 3 and 4 allow you to exclude or include specific directories on the NetWare file server from the backup. For example, you could exclude SYS:/VISTA/ from the backup.

   ```
   5) Exclude files
   6) Include files
   ```

   Options 5 and 6 allow you to exclude or include specific files from the backup. For example, you could exclude all files with the extension .BAK and .TMP by specifying *.TMP and *.BAK.

   ```
   7) Exclude path/files
   8) Include path/files
   ```

Options 7 and 8 allow you to exclude or include specific files under specific directories on the NetWare file server from the backup. For example, you could exclude `SYS:/TMP/*.TMP` from the backup.

5. Specify the Name Space Type to which the include or exclude list is to apply.

Name spaces include areas such as DOS and LONG. Type the number corresponding to the entry in the displayed list of name space types.

NetBackup will use the namespace to name the objects in the backup in the NetBackup database. The actual backup image will contain information pertaining to all the namespaces that exist for the file (i.e. namespaces installed on the volume).

Tip   Select a namespace that exists on all the volumes that are included in the target and exists on volumes to which the files might be restored.

For example:

The SYS volume has the DOS namespace and the LONG namespace installed and there is a file X where:

DOS namespace `SYS:\THISISA.TXT`

LONG namespace `SYS::This is a long document name.txt`

If the DOS namespace is selected for the target, then in the NetBackup database it would appear as `/TGTNAME/SYS/THISISA.TXT`. If you choose DOS, you do NOT lose long names.

If the LONG namespace is selected for the target, then in the NetBackup database it would appear as `/TGTNAME/SYS/This is a long document name.txt`.

When the file is deleted and then restored, the restored file will have:

DOS namespace `SYS:\THISISA.TXT`

LONG namespace `SYS::This is a long document name.txt`

This is because when the file is backed up, it contains information about what the file's name should look like in all of the namespaces that existed at the time of the backup.

Redirected restores to different targets are different. If you try to restore the backup to the target defined to use the DOS namespace on the SYS volume on machine B, you would get mixed results. Some files may get restored and some may not. Those original LONG names that are legal DOS names would get restored. But the original LONG names that are NOT legal DOS names would not get restored.

For example:

On machine A in the LONG namespace - `SYS:\FILE.TXT`

This file would get restored correctly using the target defined for machine B because this name is a valid DOS name.

On machine A in the LONG namespace - `SYS:\FILE IS LONG AND NOT DOS VALID.TXT`

This file would NOT get restored correctly using the target defined for machine B because this is not a valid DOS name.

6. Type selection items, one per line, associated with the selection type.

For example, if 7 (Exclude path/files) is selected for a DOS namespace, you could type `SYS:/STUART/*.BAK` to exclude files with a `.BAK` extension under the `SYS:/STUART` directory. Enter a blank line to end the list.

7. After all selection items have been entered, leave a blank line and press Enter to return to the **Target Selection List Configuration** menu.

Deleting Selected Targets

The **d** (Delete Selected Target) menu option in the Target Configuration menu allows you to remove the currently selected target. When entered, the following prompt displays:

```
Delete target NETWARE? (y/n): n
Enter y to delete the target or n to cancel the operation.
```

Using Common Target Login

The Common Target Login feature allows you to specify login information that can be used by one or more Targets. If the login information needs to be changed, it can then be updated in a single place without having to update the individual Targets that use it.

▼ **To enable Common Target Login:**

1. On the Target's **Main Menu**, type **t** to go to the **Target Configuration** menu.

2. On the **Target Configuration** menu, type **u** to go to the **Common Target Login** menu.

3. On the Common Target Login menu, type **e** to enable or change the Common Target Login.

4. Type the username and press Enter.

5. Type the password and press Enter.

6. Retype the password and press Enter.

7. After the Common Target Login has been enabled, you will be asked if you want to use the Common Target Login when adding or updating a Target.

If the Common Target Login information is not correct for a particular Target Service Agent, the process of adding or updating the Target will fail.

Targets that exist when the Common Target Login is enabled must be updated if they are to use the common login information.

▼ **To disable Common Target Login:**

1. On the Target's **Main Menu**, type **t** to go to the **Target Configuration** menu.

2. On the **Target Configuration** menu, type **u** to go to the **Common Target Login** menu.

3. On the Common Target Login menu, type **d** to disable the Common Target Login.

4. Type **y**.

After disabling the Common Target Login, you must update all Targets that use it, providing login information for each Target. Backups run for Targets that are not updated will fail.

Configuring for Multi-Streaming

An advantage of using the Target method for protecting your NetWare server is the ability to multi-stream data. Multi-streaming is the sending of multiple streams of data from the NetWare Client to the NetBackup server. Multiple data streams can reduce the backup time for large backups. Because the backup streams are completely independent, multiple data streams also provide a form of checkpoint restart. A single failure only terminates a single stream, and NetBackup can restart the failed stream without starting the others, improving retry time when a backup failure occurs.

To multi-stream data using the NetWare Client, though, you must:

◆ Have multiple targets configured, one for each volume.

◆ Use a policy that has **Allow multiple data streams** enabled.

◆ Configure the NetBackup master server's **Global NetBackup Attributes** to allow more than one **Maximum jobs per client**.

◆ Use a storage unit that has **Maximum concurrent drives used for backup** or **Maximum multiplexing per drive** set higher than 1.

For information about creating targets, see "Defining Targets to Back Up" on page 53.

▼ **To enable multiple data streams for a policy:**

1. From the NetBackup master server's administration console, create a new policy or edit an existing policy, following the steps described in *VERITAS NetBackup System Administrator's Guide for UNIX or VERITAS NetBackup System Administrator's Guide for Windows.*

2. On the policy's **Attributes** tab, ensure **Allow multiple data streams** is enabled.

Attributes Tab for Policy

▼ **To enable multiplexing for storage units:**

1. From the NetBackup master server's administration console, follow the steps described in *VERITAS NetBackup System Administrator's Guide for UNIX or VERITAS NetBackup System Administrator's Guide for Windows* for creating or modifying a storage unit.

2. If the **Storage Unit Type** is **Media Manager**, perform the following steps:

   a. Ensure the **Maximum concurrent drives used for backup** or **Maximum multiplexing per drive** on the Change storage unit dialog is set higher than 1.

   Change storage unit dialog

Setting this option to 1, which is the default, disables multiplexing and allows only one backup job at a time per drive. Specifying a maximum greater than 1 allows NetBackup to send concurrent, multiple backups from one or several clients to a single drive and multiplexes the backups onto the media.

b. Set the **Media multiplexing** option on the Change schedule dialog to higher than 1.

Change schedule dialog
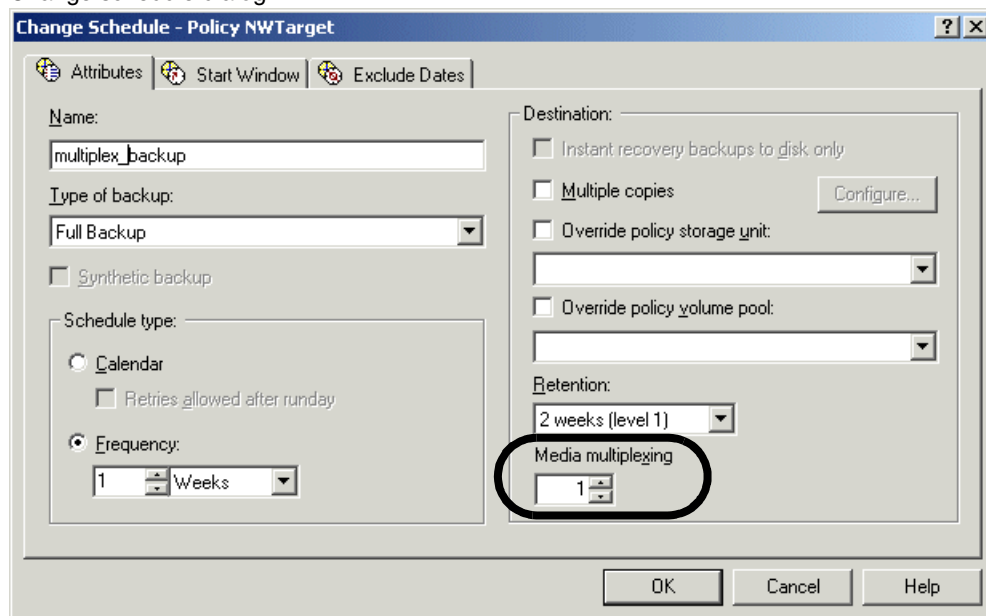
3. If the **Storage Unit Type** is **Disk**, ensure the **Maximum concurrent jobs** option on the Change storage unit dialog is set to higher than 1.

Change storage unit dialog

▼ **To allow multiple jobs per client:**

1. From the NetBackup master server's administration console, bring up the NetBackup master server **Properties** pages, following the steps described in *VERITAS NetBackup System Administrator's Guide for UNIX or VERITAS NetBackup System Administrator's Guide for Windows.*

2. Select **Global NetBackup Attributes**, and then set the **Maximum jobs per client** to between be 2 and 8.

Global NetBackup Attributes Tab

Maximum jobs per client specifies the naximum number of backup and archive jobs that NetBackup clients can perform concurrently. NetBackup can process concurrent backup jobs on the same client using different policies only if one of the following is true:

◆ More than one storage unit is available.

◆ One of the available storage units can perform more than one backup at a time.

Backing Up Data 4

The NetWare Client provides three ways of backing up data on your NetWare server:

◆ Scheduled, or server-directed backups created at the NetBackup master server.

◆ User-directed backups created at the NetWare server using the character-based menu-driven interface that runs on the NetWare file server console.

◆ User-directed backups created at the Windows workstation running the NetBackup for NetWare NonTarget Browser.

The steps for creating a scheduled backup job at the NetBackup master server differ slightly depending on whether you selected to install the Target or NonTarget method.

With all three methods, the backup is controlled by the NetBackup master server and the data is copied to a storage device connected to the NetBackup media server, which can also be the master server.

Note Scheduled full, incremental, and true image backups can only be performed by the NetBackup master server.

Planning Your Backup Strategy

During configuration, the NetBackup administrator tailors the NetBackup server to meet the requirements of your site. When planning your backup strategy, you should ask the following questions about your NetBackup server configuration:

When do automatic backups occur?

From the NetBackup master server, the administrator can schedule full and incremental backups to occur automatically and unattended. These scheduled operations should meet almost all of your backup requirements. By knowing these schedules, you can determine situations where you must perform user-directed backups to preserve critical data.

When are the windows open for user-directed backups?

During configuration, the administrator defines time periods during which your client can perform backup operations. For example, assume the window is open between 8 am and 4 pm. If you attempt a backup at 5 pm, NetBackup prevents the operation and writes a failure message in the progress log for the operation.

What is the retention period for your data?

When data expires, you can no longer recover it. The administrator defines the retention period during configuration of the NetBackup master server. Ensure that the retention time is long enough to suit your needs.

NetBackup and Novell Storage Management Services

NetBackup works with Novell's Storage Management Services (SMS) to perform backups of the NetWare server. Storage Management Services (SMS) provides a standard for data, devices, media, and storage management interfaces that in turn produce storage management products that are extensible and compatible.

With SMS, changes in one module are unlikely to cause changes in another module. For example, when releasing a new NetWare OS, Novell can release an SMS module that allows existing SMS-compatible products to service the new OS.

Prerequisites to Backing Up Your NetWare Server

Before you can use the NetWare Client, you must do the following:

◆ Configure the bp.ini file (see "Modifying BP.INI Through the Target's NetBackup Configuration Menu" on page 31 or "Modifying BP.INI Parameters With the NonTarget Method" on page 36)

◆ Set up the policy for the NetWare Client from your NetBackup master server ("Setting Up Policies for the NetWare Client" on page 69).

If you selected to install the Target method, you must create a target before creating the backup ("Defining Targets to Back Up" on page 53). You must use the Target method if you want to multi-stream data ("Configuring for Multi-Streaming" on page 61).

If you plan to use the NonTarget method, you must ensure NetBackup has the necessary permissions ("Allowing Scheduled Access" on page 69).

Allowing Scheduled Access

To allow scheduled backups when targets are not created, the user name and password for the resource must be provided and the proper information added to the bp.ini file through the NetBackup for NetWare NonTarget Browser's **Allow Scheduled Access** option.

▼ **To provide access for scheduled backups using NonTarget method:**

1. At the NetBackup for NetWare NonTarget Browser, select the resource you want to back up.

    a. Choose **Actions** > **Backup Files and Folders**.

    b. Select the NetWare server for which you want to allow server-directed backups.

2. Enter the **User Name** and **Password** for the NetWare server.

You may be prompted for **Available Namespaces** when you first select the resource. Enter the highest available Namespace (usually **LONG**).

3. Choose **Backup** > **Allow Scheduled Access**.

When **Allow Scheduled Access** is selected, it may appear that nothing happens. However, NetBackup adds the resource name, namespace, username and password to the NetWare server's bp.ini file. An entry is added for each resource selected. You can verify these entries by editing the bp.ini file.

Setting Up Policies for the NetWare Client

Before you can back up your NetWare server, you must create policies that can be used for scheduled, server-directed backups and for user-directed backups.

The parameters necessary for the scheduled backup policy depend on whether you are using the Target or NonTarget version of the NetWare Client.

With the Target method:

◆ The policy for a scheduled backup must use **Standard** as the **Policy type**.

◆ When selecting files for backup, you must type the Target name; you cannot use the **Browse** button.

◆ When typing the **Backup Selections**, enter only the Target name.

◆ On the **Client** tab, type the name of the NetWare Client; **Hardware** should be **Novell** and **Operating System** should be **NetWare**.

With the NonTarget method:

◆ The policy for a scheduled backup must use **NetWare** as the **Policy type**.

◆ The **Backup Selections** should contain a single forward slash (/). Using just a forward slash (/) backs up all resources configured in **Allow Scheduled Access**. There should be nothing else in the Backup Selections list (path name).

◆ For the **Client**, **Hardware** should be **Novell** and **Operating System** should be **NetWare**.

For user-directed backups, at least one schedule for backing up the NetWare server must include **User Backup** as the **Type of backup**.

Schedule Attribute Tab

Performing Scheduled Backups

The NetBackup administrator can schedule full and incremental backups to occur automatically and unattended, under the control of the NetBackup master server. Full, incremental, and true image backups can only be performed by the NetBackup master server. Scheduled backups will probably meet most of your backup requirements.

> **Note** In previous versions of the NetWare Client, scheduled backups could be only partially successful since some applications retain locks on files when left open. NetBackup and NetBackup Enterprise are packaged with the Open File Backup Option, which resolves this problem. If the Open File Backup Option is disabled, be sure to shut down all applications on the NetBackup client before proceeding with server-directed backups. See the *VERITAS NetBackup Installation Guide for Windows* or the *VERITAS NetBackup Installation Guide for UNIX* for more information on installing the Open File Backup Option.

There are four types of scheduled or server-directed backups and archives:

◆ Full Backup (see "Full Backup" on page 71)

◆ Cumulative-Incremental Backup (see "Cumulative-Incremental Backup" on page 71)

◆ Differential-Incremental Backup (see "Differential-Incremental Backup" on page 72)

◆ True Image Backup (see "True Image Backup" on page 72)

Full Backup

When the NetBackup master server is configured to perform a full backup, NetBackup backs up all files in a specified folder or volume to a storage unit. The archive bit is cleared as each file is backed up. If the full backup fails, NetBackup will attempt another full backup at the same time each day until successfully completed. A successfully completed backup will include all files.

Cumulative-Incremental Backup

When the NetBackup master server is configured to perform a cumulative-incremental backup, NetBackup backs up all files that have changed since the last successful full backup.

Cumulative-incremental backups can be configured to use either the date and time stamp or the archive bit. If the date and time stamp is used, the cumulative-incremental backup includes all files with a date and time stamp that is more recent than the last full backup. If the archive bit is used, the cumulative-incremental backup includes all files that have their archive bit set. Archive bits are not cleared on cumulative-incrementals.

Differential-Incremental Backup

When the NetBackup master server is configured to perform a differential-incremental backup, NetBackup backs up all files that have changed since the last successful backup.

Differential-incremental backups can be configured to use either the date and time stamp or the archive bit. If the date and time stamp is used, the differential-incremental backup includes all files with date and time stamps that are more recent than the last full or incremental backup. If the archive bit is used, the differential-incremental backup includes all files that have their archive bit set. Archive bits are cleared on differential-incrementals if all files are successfully backed up.

True Image Backup

A true image backup takes place when the **Collect true image restore information** attribute has been set on the policy's **Attributes** tab. When this attribute is set, NetBackup collects additional information necessary to restore a folder to exactly what it was at the time of the full backup or incremental backup.

Only those backups performed with this attribute set can be used for the true image restore. For complete details, refer to the *NetBackup System Administrator's Guide for UNIX* or the *NetBackup System Administrator's Guide for Windows*.

Creating a Scheduled Backup Using Targets

Scheduled backups, also called server-directed backups, are launched from the NetBackup master server through the creation of a backup policy. If you are using the Target method, you must first create a target using the NetWare Client's user interface running on the NetWare server.

▼ **To set up scheduled backups using targets:**

1. On the NetWare server, create a target (see "Defining Targets to Back Up" on page 53).

2. From the NetBackup master server's administration console, create a new policy, following the steps described in *VERITAS NetBackup System Administrator's Guide for UNIX or VERITAS NetBackup System Administrator's Guide for Windows* with the following settings:

◆ On the **Attributes** tab, for **Policy type**, select **Standard**.

◆ On the **Clients** tab, enter the name of the NetWare server for the Client name, and then select **Novell** as the **Hardware**, and **NetWare** as the **Operating System**.

◆ On the **Selections** tab, enter the name of the target which is to be backed up. You must type the Target name; you cannot use the **Browse** button.

Creating a Scheduled Backup for NonTarget Method

Scheduled backups, which are launched from the NetBackup master server through the creation of a backup policy, do not require the creation of targets if you plan on using the NonTarget method. However, you must use the **Allow Scheduled Access** option (see "Allowing Scheduled Access" on page 69).

▼ **To set up scheduled backups using the NonTarget method:**

1. From the NetBackup for NetWare NonTarget Browser, follow the steps described in "Allowing Scheduled Access" on page 69.

2. From the NetBackup master server's administration console, create a new policy, following the steps described in *VERITAS NetBackup System Administrator's Guide for UNIX or VERITAS NetBackup System Administrator's Guide for Windows* with the following settings:

   ◆ On the **Attributes** tab, for **Policy type**, select **NetWare**.

   ◆ On the **Clients** tab, enter the name of the NetWare server for the Client name, and then select **Novell** as the **Hardware**, and **NetWare** as the **Operating System**.

   ◆ On the **Selections** tab, for **Backup Selections** enter a single forward slash (/). Using just a forward slash (/) backs up all resources configured in **Allow Scheduled Access** (see "Allowing Scheduled Access" on page 69). There should be nothing else in the Backup Selections list (path name).

Performing User-Directed Backups

A user-directed backup can be created at the NetWare server using the character-based NetWare Client user interface or from a Windows workstation using the NetBackup for NetWare NonTarget Browser. Before creating a user-directed backup, you must first create a schedule in a policy that allows user backups.

If you are using the Target method, you must also define a target to be backed up (see "Defining Targets to Back Up" on page 53).

Creating a User-Directed Backup Using Targets

▼ **To set up a user-directed backup using targets:**

1. On the NetWare server, create a target (see "Defining Targets to Back Up" on page 53).

2. From the NetBackup master server's administration console, create a new policy, following the steps described in *VERITAS NetBackup System Administrator's Guide for UNIX or VERITAS NetBackup System Administrator's Guide for Windows* with the following settings:

   ◆ On the **Attributes** tab, for **Policy type**, select **Standard**.

   ◆ On the **Clients** tab, enter the name of the NetWare server for the Client name, and then select **Novell** as the **Hardware**, and **NetWare** as the **Operating System**.

   ◆ On the **Schedules** tab, click **New**, and then for **Type of backup** select **User Backup**.

   Note The **Selections** tab is not used for user-directed backups.

3. On the NetWare server, start the Target user interface by following the procedures described in "Starting the Target User Interface" on page 12.

4. On the **Main Menu**, type **b**.

   The **User Directed Backup** menu appears.

User Directed Backup Menu

```
User Directed Backup
_____
b)  Initiate Backup...
v)  Change Server
t)  Change Target
h)  Help
q)  Quit

ENTER CHOICE: _
```

Menu options are as follows:

User Directed Backup Menu Options

Item	Description
b) Initiate Backup	Allows you to initiate the backup.
v) Change Server	Allows you to change the NetBackup master server to which you direct the request.
t) Change Target	Allows you to change the selected target.
h) Help	Provide help information for this menu.
q) Quit	Returns you to the main menu.

5. Type **b**.

6. Type **y** if you want to use progress logs; otherwise, type **n**. For more information on progress logs, see "Using Log Files" on page 50.

7. If you selected to use progress logs, press Enter to accept the default path for the log or type a new path and press Enter.

8. Type **y** to initiate the backup now.

9. After the backup has started, press Enter to return to the **User Directed Backup** menu.

Creating a User-Directed Backup Using the NonTarget Method

If you are unfamiliar with how NetWare entities appear in the NetBackup for NetWare NonTarget Browser, refer to "How NetWare Entities Appear in the NonTarget Browser" on page 80 before creating a user-directed backup.

▼ **To create a user-directed backup using the NonTarget method:**

1. From the NetBackup master server's administration console, create a new policy, following the steps described in *VERITAS NetBackup System Administrator's Guide for UNIX or VERITAS NetBackup System Administrator's Guide for Windows* with the following settings:

   ◆ On the **Attributes** tab, for **Policy type**, select **NetWare**.

   ◆ On the **Clients** tab, enter the name of the NetWare server for the Client name, and then select **Novell** as the **Hardware**, and **NetWare** as the **Operating System**.

   ◆ On the **Schedules** tab, click **New**, and then for **Type of backup** select **User Backup**.

   Note The **Selections** tab is not used for user-directed backups.

2. On the NetBackup for NetWare NonTarget Browser's **Actions** menu, click **Backup Files and Folders**.

3. Mark a file to be backed up.

   a. Double-click the SMDR on the left pane. The tree will expand to display the contents of the SMDR.

   b. Double-click the TSA. The tree will expand to display the contents of the TSA.

   c. Double-click the file server.

   d. Enter the **User Name** and **Password**, and then click **OK**.

      The user must have supervisor or administrator equivalency. The user name must contain the full context, for example, .ADMIN.RSVL.

   e. If you want to back up an entire volume, click the selection circle next to the volume.

   f. If you want to back up directories or files, expand the volume, and then click the selection circle next to each directory or file you want to include in the backup.

4. Choose **Backup** > **Backup Marked Files**. For more information about this dialog, see "Backup Marked Files Dialog" on page 77.

5. On the Backup Marked Files dialog, review your selections in the **Name** list.

6. If you want to be able to search for a keyword or phrase when restoring items, type a keyword or phrase.

7. Click **Start Backup**.

8. When prompted, click **Yes** if you want to view the progress of the backup; otherwise, click **No**.

9. If you selected to view the status, click **Close** after the job completes.

The View Status dialog allows you to view the progress report of a NetBackup operation. For more information about the View Status dialog, see "Viewing Job Status" on page 85.

Note The NetBackup operation may take a few minutes to complete. You can close the Backup, Archive, and Restore interface after starting a backup operation. NetBackup will continue the backup operation in the background.

Backup Marked Files Dialog

This dialog appears after you have initiated a backup. To access this dialog:

◆ On the Backup window, click the **Start Backup** button.

◆ Choose **Backup** > **Backup Marked Files.**

Backup Marked Files Dialog
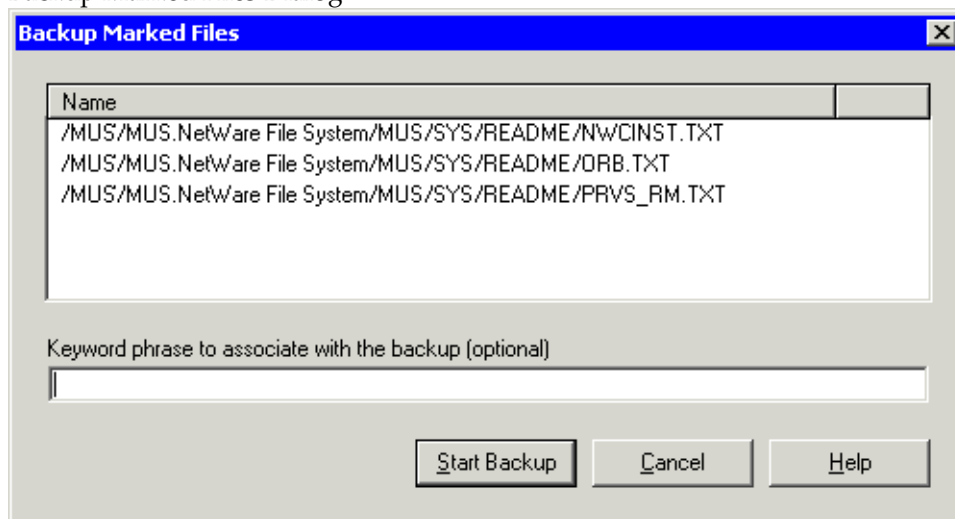
Use this dialog to view your selections before proceeding with the operation. Options on this dialog are as follows:

Backup Marked Files Dialog Options

Item	Description
Name	Contains a list of objects to be backed up.
Keyword phrase to associate with the backup (optional)	Specifies a keyword phrase, up to 128 characters in length, that NetBackup will associate with the image created by this backup operation. You can then restore the image by specifying the keyword phrase in the Search Backups dialog.
	All printable characters are permitted including space (" ") and period ("."). The default keyword phrase is the null (empty) string.
Start Backup	Initiates the backup operation.
Cancel	To cancel and return to the previous display without accepting changes to the parameters in this dialog, click this button.
Help	To view online help for this dialog, click this button.

Preview List Dialog Box

Use this dialog box to view all of the files or folders you have marked. This is a view-only dialog box.

To access this dialog box:

❖ From the **Edit** menu, select **Preview List of Marked Files**. The Preview List dialog box which appears depends upon whether the backup or restore window is the active window.

This dialog includes the following items:

Preview List Dialog Options

Item	Description
Name	When a Backup window is open, a list of the files or folders to be backed up is displayed. When a Restore window is open, a list of the files or folders to be restored is displayed.
Close	Closes the dialog box.
Help	To view online help for this dialog, click this button.

How NetWare Entities Appear in the NonTarget Browser

Before using the NetBackup for NetWare NonTarget Browser, you must be familiar with how the NetWare entities appear in the NonTarget Browser's Backup and Restore windows.

Backup Window
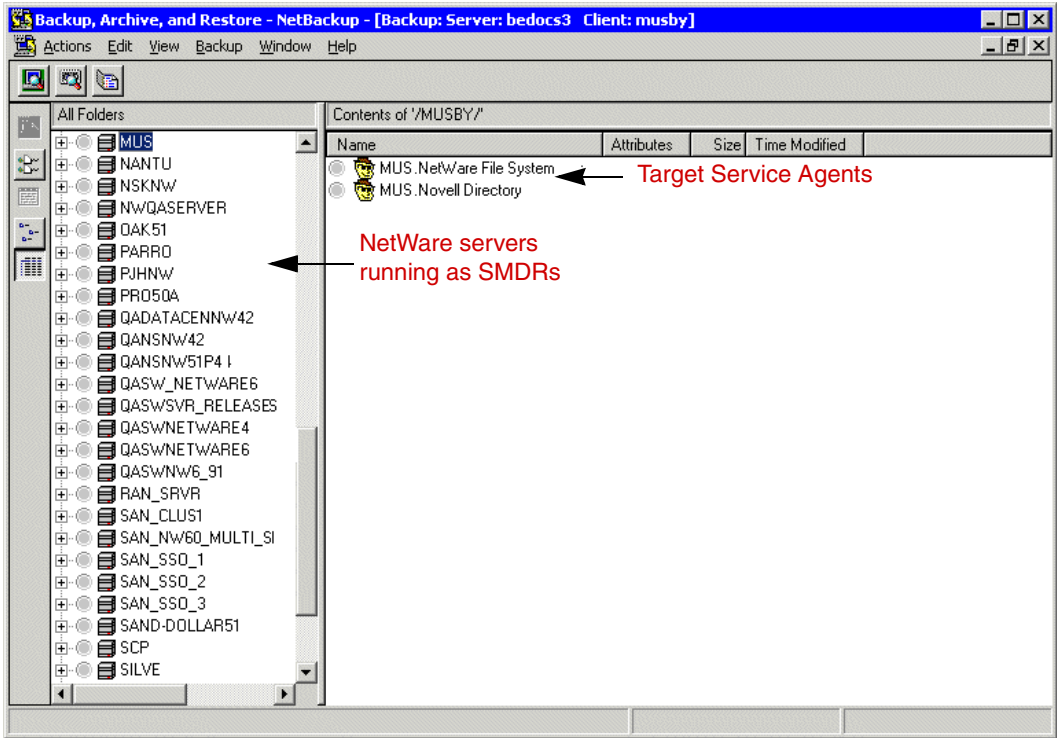
When you first open a window, the left pane shows the NetWare servers that are running as SMDRs (Storage Management Data Requestors). The right pane shows the Target Service Agents on the SMDR that is selected in the left pane.

Double-clicking on a folder in the Backup window expands it to the next lower level.

The following explains each level in the structure:

NetWare Structure Levels

Item	Description
Storage Management Data Requestor (SMDR)	The name of the NetWare server that is running the SMDR.NLM used for backups.

NetWare Structure Levels (continued)

Item	Description
Target Service Agent (TSA)	A NetWare software module that prepares the data for backup or restore by the SMDR. There are different types of TSAs, depending on the data.
Target Service	The NetWare entity that has the data being handled by the selected TSA. For a Novell Directory Services TSA, you will see the directory schema and root of the NDS tree to be backed up.
	When you first attempt to access a target service during a backup, NetBackup prompts you for the user name and password of the account under which you are performing the backup.
	During a restore operation, the left pane of the window shows the namespace type for the resources under a target service. The Restore window will show the different namespaces only if the backups were performed using the multiple namespaces.
Resources	The specific resources on the selected target service. For example, NetWare file systems on a 5.1 system are Server Specific Information, `SYS:`, and other volumes.
	The first time you attempt to restore from a resource, NetBackup prompts you for the user name and password of the account under which you are performing the restore.
Directories and Files	The directories and files that are in the selected resource.

NetBackup Window Icons

This section describes all icons displayed in the Backup and Restore windows.

Icon   Description

Represents NetBackup. It is used on the title bar in the Backup, Archive, and Restore interface, in the Windows Start menu, and Windows Explorer.

Represents a backup. It is used on the title bar of the backup window.

Represents a restore. It is used on the title bar of the restore window.

Represents a floppy drive. Used in the All Folders pane.

Icon	Description
	Represents a logical hard drive. Used in the All Folders pane.
	Represents a CD-ROM drive. Used in the All Folders pane.
	Represents a network drive. Used in the All Folders pane.
	Represents a client PC or NDS tree. Used in the All Folders pane.
	Expand or collapse these structures to see more or fewer subentries. A plus sign indicates that the folder can be expanded. A minus sign indicates that the folder can be collapsed. Used in the All Folders pane.
	Represents a closed folder that may or may not contain other items. Used in the All Folders pane where only folders are displayed under drives. Also in the Contents of '*<folder>*' pane.
	Represents an opened folder that may or may not contain other items. Used in the All Folders pane where only folders are displayed under drives.
	Represents a NetWare file server that is running the Storage Management Data Requestor (SMDR). Used in the All Folders pane and the Contents of '*<folder>*' pane.
	Represents a client PC, NetWare file server, or NDS tree. Used in the All Folders pane and the Contents of '*<folder>*' pane.
	Represents a NetWare Target Service Agent (TSA). Used in the All Folders pane and the Contents of '*<folder>*' pane.
	Represents a NetWare Namespace.
	Represents a file or a folder, with all of its contents, that has been marked for backup or restore. Used in the All Folders pane and the Contents of '*<folder>*' pane.
	Represents a folder with some of its contents marked for backup or restore. Used in the All Folders pane and the Contents of '*<folder>*' pane.
	Represents a file or folder that has not been marked for backup or restore, but could be. Used in the All Folders pane and the Contents of '*<folder>*' pane.
	Represents an object with all of its contents marked for backup or restore, but the object itself cannot be marked. Used in the All Folders pane and the Contents of '*<folder>*' pane.
	Represents an object with some of its contents marked for backup or restore, but the object itself cannot be marked. Used in the All Folders pane and Contents of '*<folder>*' pane.

Icon	Description
	Represents an object that cannot be marked for backup or restore but contains other objects that can be marked for backup or restore. Used in the All Folders pane and Contents of '*<folder>*' pane.
	Represents a folder that wasn't specifically backed up, but at least some of its contents were backed up. Used in the All Folders pane of the NetBackup Restore window.
	Represents a file that doesn't have an icon associated with it. Used in the Contents of '*<folder>*' pane.
	Unmarks all files and folders in this window. You can also execute this command by selecting **Unmark All** from the **Edit** menu.
	Opens the Preview List dialog during a backup or restore operation. You can also execute this command by selecting **Preview List** from the **Edit** menu.
	Shows files and folders only. You can also execute this command by selecting **Brief Descriptions of Files** from the **View** menu.
	Shows file and folder details such as size and file permissions. You can also execute this command by selecting **Full Descriptions of Files** from the **View** menu.
	Opens the Search Backups dialog.
	Shows all instances of the files or folders in the currently selected image(s). You can also execute this command by selecting **Show All Backups** from the **View** menu.
	Shows the most recent backup of files or folders in the selected backup images. You can also execute this command by selecting **Show Most Recent Backup** from the **View** menu.
	Allows you to select an item for backup or restore by clicking this selection circle.

Backing Up GroupWise

You can create scheduled and user-directed backups of GroupWise data on your NetWare server. If you are using the Target method, create a target for your GroupWise, selecting the GroupWise System as your **Target Service Agents** and **Target Services**, and then selecting the GroupWise resource you want to protect. You will have to create a target for each GroupWise resource you want to backup.

Creating GroupWise Target

```
Target Service Agents
_____

    1> QANSNW6.GroupWise System
    2> QANSNW6.NetWare File Systemm
    3> QANSNW6.Novell Directory
    4> QANSNW6.Workstations
Enter Choice [1-4]:  1

Target Services
_____

    1> QANSNW6.GroupWise System1
Enter Choice [1-1]:  1

Target Service Username:  .admin.qalab
Target Service Password:

Available Resources
_____

    1> GroupWise Mail Server
    2> [Dom]GWDOM2:
    3> [Dom]GWDOMAIN:
    4> [Po]GWPOA:
    5> [DMS]lib0001:
    6> [Po]GWPOA2:
Enter Choice [1-6]:  _
```

If you are using the NonTarget method, you can select all GroupWise resources when creating a user-directed backup. For scheduled backups using the NonTarget method, you must select the **Allow Scheduled Access** option for each resource (see "Allowing Scheduled Access" on page 69).

Selecting GroupWise Resources Using NonTarget Browser
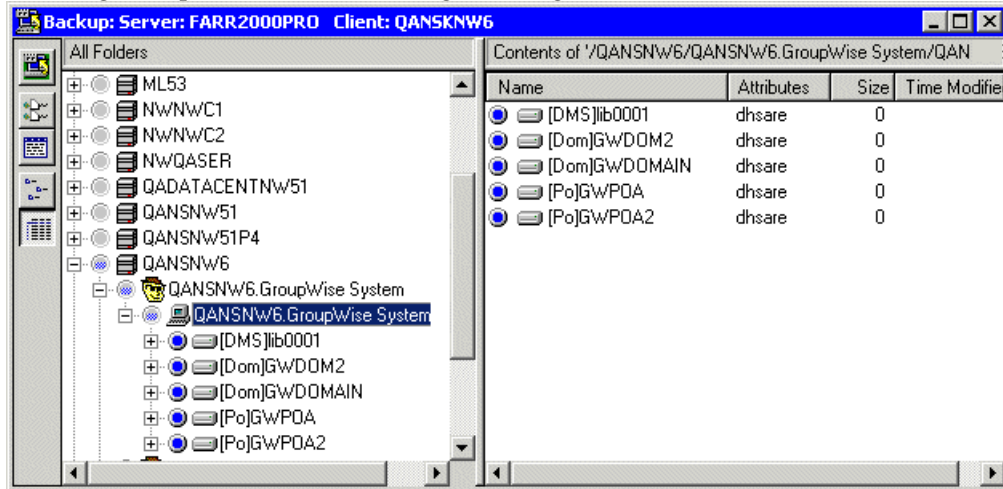
See also:

"Setting Up Policies for the NetWare Client" on page 69

"Performing Scheduled Backups" on page 71

"Performing User-Directed Backups" on page 74

"Restoring GroupWise" on page 91

Viewing Job Status

You can view the job status for user-directed backups and restores if you select to view the status when the job is created, or if you complete the following procedure.

▼ **To view job status:**

1. Choose **Actions** > **View Status**.

   The status of the operation displays under the **Operation Status** column.

2. Select the operation for which you want to check the progress.

3. Click **Refresh**.

View Status Dialog
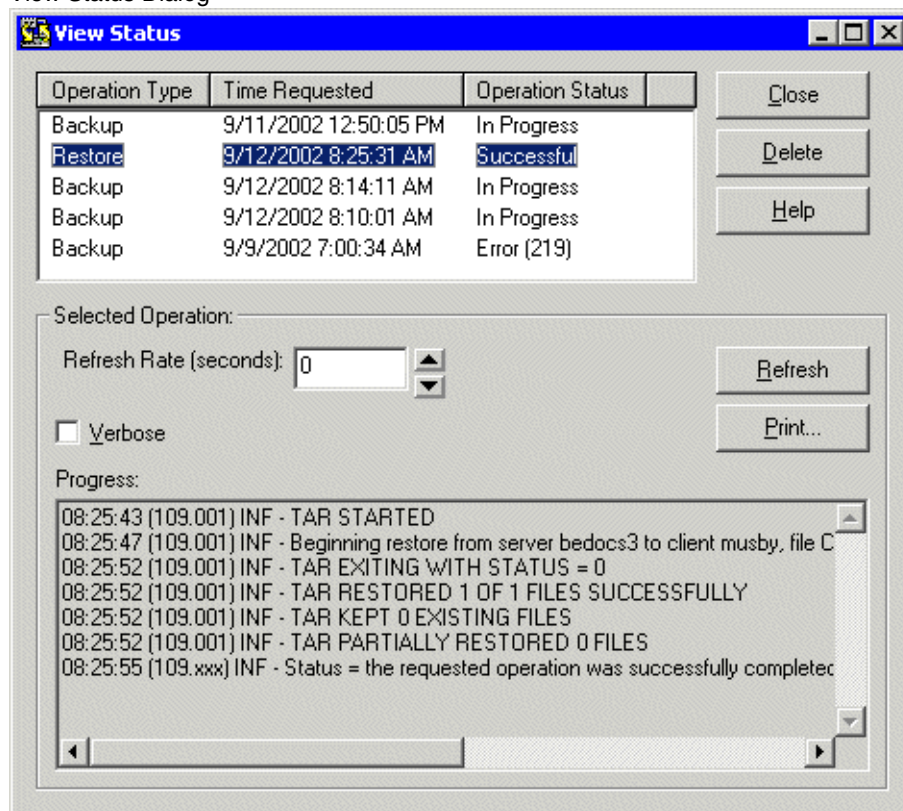
The top pane displays the status reports available with the most current operation at the top of the list. By default status reports will be stored on the NetWare Client for three days. To change the number of days reports are stored, change the Configuration option **Days to keep operation status** (see "Setting General Configuration Options" on page 37).

The lower pane of the View Status dialog reflects the progress of the item selected in the top pane.

Options and information on the View Status dialog include:

View Status Dialog Options

Item	Description
Operation Type	Shows the type of NetBackup operation for the selected progress report; operation types include **Backup** and **Restore**.

View Status Dialog Options (continued)

Item	Description
Time Requested	Shows the start date and time of the selected NetBackup operation. The format of the start date and time depends upon how the date and time display has been configured on the computer.
Operation Status	Shows the status of a NetBackup operation. Valid values include **In progress**, **Successful**, and **Error (***error encountered***)**.
Close	Closes the dialog. **Close** does not terminate NetBackup or affect other dialogs or windows.
Delete	Deletes the progress report selected in the Operations List. First select the progress report in the Operations List then click **Delete**.
	Operation status reports are automatically deleted after a specified number of days. The **Keep status of user-directed backups, archives, and restores for:** parameter in the General Property Sheet on the NetBackup Configuration dialog specifies the number of days.
Help	To view online help for this dialog, click this button.
Selected Operation	
Refresh rate (seconds)	Changes the rate at which NetBackup updates the **Status** display for the selected operation. The recommended value is 10. This parameter can be set at any time during a NetBackup operation.
	Enter a value (in seconds) in **Refresh Rate (seconds)**.
	or
	Use the spin buttons to the right of **Refresh Rate (seconds)**. A value of 0 turns off automatic refreshing.
Refresh	Updates the **Status** display for the selected NetBackup operation. **Refresh** is enabled when a NetBackup operation is selected from the Operations List.
Verbose	Generates a more detailed progress report for the selected NetBackup operation.
Print	Opens the Microsoft Windows print dialog and prints out the progress report for the selected NetBackup operation.

View Status Dialog Options (continued)

Item	Description
Progress	Displays the progress of the selected operation. If the **Refresh Rate (seconds)** parameter is set to 0, the user can click **Refresh** to view the progress of the selected NetBackup operation.
	Each message begins with the time of the related event and an acronym that indicates the nature of the message. **Status** also lists all the media IDs used to store the data.
	Select **Verbose** for a more detailed progress report.
	Following is a list of acronyms.
	DAT Informational messages that are helpful in debugging.
	ERR Error message.
	FTL Fatal error message.
	INF Informational message (no error occurred).
	TRV Trivial error message.
	WRN Warning error message.
	Note If the drive on which NetBackup is installed is full, no progress messages are displayed except those indicating the job has been initiated and the job has been completed.

4. By default the progress file is displayed in an abbreviated form. If you wish to view the entire contents of the progress file, select the **Verbose** option.

The operation is finished when the Status changes to Successful. If NetBackup was unable to back up or restore all of the requested files, a status code appears a few lines before the end of the progress report. The *VERITAS NetBackup Troubleshooting Guide for UNIX* or the *VERITAS NetBackup Troubleshooting Guide for Windows* list the meaning of the final status code.

Restoring Data 5

A *restore operation* reads backups from the storage device on the NetBackup master server or the NetBackup media server and restores data to the NetWare server. Using the NetWare Client, you can select a combination of files, folders with files, or entire drives to restore. The NetWare Client provides three ways of launching a restore operation:

◆ Server-directed restores created at the NetBackup administration console (see "Performing Server-Directed Restores" on page 91).

◆ User-directed restores created at the NetWare server using the character-based menu-driven (Target) interface that runs on the NetWare server console (see "Performing Restores Using the Target Method" on page 91).

◆ User-directed restores created at the Windows workstation running the NetBackup for NetWare NonTarget Browser (see "Creating a User-Directed Backup Using the NonTarget Method" on page 76).

The steps for creating a server-directed restore job at the NetBackup master server differ slightly depending on whether you selected to install the Target or NonTarget method.

With all three restore methods, you can select to restore data to the NetWare server from which it was backed up, or redirect the restore so that files backed up from one NetWare Client are restored to another NetWare Client. You can also select to restore true image backups, which restore only the contents of a directory to what it was at the time of a selected automatic full or incremental backup (see "Restoring a True Image of a Directory" on page 111).

With server-directed restores and restores initiated with the NonTarget method, you can restore data that was backed up by Backup Exec for Windows Servers 7.0 or later (see "Restoring from Backup Exec Images" on page 115).

Prerequisites for Restoring Data

To restore a file, write permission on the destination folder is required, and a file will not be restored when a file with the identical name is open on the NetWare Client.

Trustee Rights

If the trustee rights to a file on a NetWare system have changed since the file was backed up, they will be restored to what they were at the time of the backup; therefore:

◆ A user that has been given trustee rights to the file since the backup will *not* have those rights to the file after the restore.

◆ A user that has had rights to the file removed since the backup will again have rights after the file is restored.

Allowing Server-Directed Restores

The administrator on the NetBackup master server can direct restores to any NetWare Client no matter which NetWare Client the files were backed up from, provided server-directed restores are permitted. With both the Target and the NonTarget method, you can prohibit server-directed restores.

▼ **To prohibit server-directed restores by modifying the bp.ini file:**

1. On the NetWare server, edit the BP.INI file using a text editor.

2. In the [bp] Section, change the **Allow_Server_Write** parameter to **no**, which prohibits the system administrator from initiating a restore

   The default is **yes**.

3. Save the edited file.

▼ **To prohibit server-directed restores using the NetBackup for NetWare NonTarget Browser:**

1. From the NetBackup for NetWare NonTarget Browser, choose **Actions** > **Configure**.

2. On the **General** tab, clear the **Allow Server-Directed Restores** option.

3. Click **OK**.

Restoring GroupWise

Before restoring GroupWise data, the GroupWise database must be closed. Then, you can restore data using either the target or nontarget method. Restoring of individual mailboxes is not possible.

Performing Server-Directed Restores

To launch a restore from the NetBackup administration console, ensure the **Policy Type** is set to **Standard** for Target backups and **NetWare** for NonTarget backups and that the Allow Scheduled Access option has been set for the resource (see "Allowing Scheduled Access" on page 69).

▼ **To set the policy type:**

1. On the NetBackup Administration Console, choose **File** > **Backup, Archive, and Restore** > **File** > **Specify NetBackup Machines**.

2. Click **Source Clients/Policy Type**.

3. Select the **Policy Type** you want, and then click **OK**.

To launch a restore operation, follow the restore steps described in *VERITAS NetBackup System Administrator's Guide for UNIX, Volume I*, or *VERITAS NetBackup System Administrator's Guide for Windows, Volume I*.

Performing Restores Using the Target Method

NetBackup restores files according to the original file path name. If existing files have the same names as backed up files, you can choose whether or not to overwrite files (file permissions must also allow overwriting). If you need to restore to a different location than from where the data was originally backed up, see "Redirecting Restores" on page 107.

▼ **To perform a restore using the Target method:**

1. On the NetWare server, start the Target user interface by following the procedures described in "Starting the Target User Interface" on page 12.

1. On the **Main Menu**, type **r**.

   The Restore Backups menu displays.

Restore Backups Menu

```
BP                              NetBackup                          Version 4.5
              Copyright 1993 — 2002 VERITAS Software Corporation

              Path:     /
        Start Date:     09/05/02 11:55:08        Master Server:  bedo3
          End Date:     09/13/02 23:59:59        Browse Client:  mus
        Selections:     0                        Browse Target:  DAN
   Directory Depth:     2 levels


                            Restore Backups
                            ---------------
    s)  Search...                          p)  Change Path...
    e)  Edit/View Selections...            d)  Change Date Range...
    r)  Initiate Restore...                c)  Change Directory Depth...
    x)  Display Mode: Brief                v)  Change Master Server
    l)  List Backup Images                 b)  Change Browse Client
    a)  Specify Destination Target...      t)  Change Browse Target

    h)  Help
    q)  Quit
                            ENTER CHOICE: _
```

2. Check the following criteria at the top of the Restore Backups menu to ensure that it is appropriate for the restores you are going to perform. Use the corresponding option to change these values. For more information about **Restore Backups** menu options, see "Using the Restore Backups Menu" on page 94.

Restore Backup Options

Item	Description
Path	The directory at which you want to start the search for the desired images. The search begins in the specified directory and goes down the directory tree. At start up, the current path is set to /. To change the path, type **p** (Change Path) and follow the prompts. To search for a specific file, type its complete path at the prompt.
Start Date and End Date	The range of dates must include the backup dates of the files you want to restore. At start up, the **Start Date** is the most recent full backup date in the NetBackup database. The **End Date** is 23:59:59 of the current day. To change the range of dates, type **d** and follow the prompts (also see "Using the Restore Backups Menu" on page 94). To view the backup dates of the available backup images, type **l**.
Master Server	This is the NetBackup master server that has the database you will be browsing for targets to restore.
Browse Client	This is the NetWare Client whose backup images you are currently browsing. You must have the necessary permissions from the administrator on the master server to browse clients other than the one where you are running NetBackup.

Restore Backup Options (continued)

Item	Description
Browse Target	This is the selected target that you will be restoring.

3. On the **Restore Backups** menu, type **s** to initiate a search of the NetBackup backup images for files and directories that belong to the target and meet the path and date criteria.

    When the search is complete, the Search screen shows the results of the search.

    Search Results

    ```
    Selections: 0  Target: BACKUP  Path: /
      Backup Date
    ->>09/18/02 05:37:44 /SYS/TOOLS/
      09/18/02 05:34:32 /SYS/TOOLS/
      09/18/02 05:37:44 /SYS/UCS/
      09/18/02 05:34:32 /SYS/UCS/
      09/18/02 05:37:44 /SYS/VERITAS/
      09/18/02 05:34:32 /SYS/VERITAS/
      09/18/02 05:37:44 /SYS/java/
      09/18/02 05:34:32 /SYS/java/
      09/18/02 05:37:44 /SYS/javasave/
      09/18/02 05:34:32 /SYS/javasave/
      09/18/02 05:37:44 /SYS/ndps/
      09/18/02 05:34:32 /SYS/ndps/
      09/18/02 05:37:44 /SYS/ni/
      09/18/02 05:34:32 /SYS/ni/
      09/18/02 05:37:44 /SYS/senlm/
      09/18/02 05:34:32 /SYS/senlm/
      09/18/02 05:37:44 /SYS/tmp/
      09/18/02 05:34:32 /SYS/tmp/


    Zoom(I)n (Z)oomOut (S)elect (B)ack (F)wd (U)p (D)n (L)eft (R)ight (O)k
    ```

Note If you are restoring an entire directory and the range of dates includes more than one backup date for files in the directory, NetBackup restores only the most recent backups. To restore earlier versions, you can either:

Restore by file rather than by directory and select the files with the desired backup date.

OR

Return to and search only the specific backup dates you desire. Here, you can restore the entire directory. However, before proceeding, ensure that you want to overwrite all files in that directory with the earlier version.

4. Use the menu options at the bottom of the Search screen to browse and select the desired files and directories from the backup images.

When you are through selecting, type **o** (for Ok) to return to the previous menu.

5. Type **r** to initiate the restore.

6. When prompted, type **y** if you want to overwrite existing files; otherwise, type **n**.

7. When prompted, type **y** if you want to use progress logs; otherwise, type **n**. For more information about progress logs, see "Using Log Files" on page 50.

8. If you selected to use progress logs, verify the default path listed is correct, or enter a new path, and then press Enter.

9. Type **y** to initiate the restore.

10. After the restore operation is successfully initiated, press Enter to return to the **Restore Backups** menu.

Using the Restore Backups Menu

Options on the **Restore Backups** menu, which appears when from the **Main Menu** you select **r**, are as follows:

Restore Backups Menu Options

Item	Description
s) Search	Takes you to the Search screen from which you can browse the NetBackup database to select the desired files and directories.
e) Edit/View Selections	Displays the list of files and directories currently selected for restore. You can also add or delete selections from the list.
r) Initiate Restore	Brings up the Initiate Restore screen, from which you can start the operation.
x) Display Mode:Brief	Selects whether the Search screen shows only names (**Brief** mode) or also includes file details (**Full** mode) as in the following example:

Size   Modification Date

68256 10/22/95 02:01:00 /SYS/AJ510.EMU

 9042 05/11/95 01:11:00 /SYS/BAPI.DEV

  379 10/22/95 06:46:32 /SYS/VISTA/BP.EXE

Toggle the Display Mode indication to **Full** for file details and to **Brief** for file names only.

Restore Backups Menu Options (continued)

Item	Description
l) List Backup Images	Displays the list of backup images from the NetBackup database.
a) Specify Destination Target	Allows you to redirect the restore to a target other than the one from which they were backed up.

p) Change Path	Allows you to change the directory at which subsequent search operations begin. In the following example, the new file path is `/SYS/VISTA/DOCS`.
	
	`Current File Path /SYS/TEST`
	`  New File Path /SYS/VISTA/DOCS`
	
	Use forward slashes (/) in these paths. This is required because the request goes to the NetBackup server, which uses UNIX conventions.

d) Change Date Range	Allows you to change the **Start Date** and **End Date** as shown at the top of the menu. These dates indicate the range of dates that NetBackup includes in a search for files to restore.
c) Change Directory Depth	Allows you to change the number of levels of directories and files that appear on the Search screen. The new number appears on the Directory Depth line at the top of the screen. The default depth is 2.
v) Change Master Server	Allows you to select the master server with the database for the files you want to restore.
b) Change Browse Client	Allows you to browse and restore files backed up by another client, providing the administrator on the master server gives you the necessary permissions.
t) Change Browse Target	Changes the currently selected target.
h) Help	Provides help information for this menu.
q) Quit	Returns you to the main menu.

Performing Restores Using the NetBackup for NetWare NonTarget Browser

To understand how NetWare entities, such as Resources, TSAs, and files, appear in the Restore window, see "How NetWare Entities Appear in the NonTarget Browser" on page 80.

By default, the Restore window shows the files and folders that where backed up from the time of the last full backup to the most recent backup. If a client has been backed up using more than one policy, the default display starts with last full backup that occurred on the earliest date. For example, if one policy's most recent full backup occurred on February 2 and the second policy's most recent full backup occurred on February 10, the Restore window shows files ranging from February 2. To change the default range, see "Using Search Backups to Narrow Parameters" on page 100.

The following steps are for restoring normal backups. For information on restoring data from Backup Exec, see "Restoring from Backup Exec Images" on page 115. To restore True Image Backups, see "Restoring a True Image of a Directory" on page 111.

▼ **To restore data using the NetBackup for NetWare NonTarget Browser:**
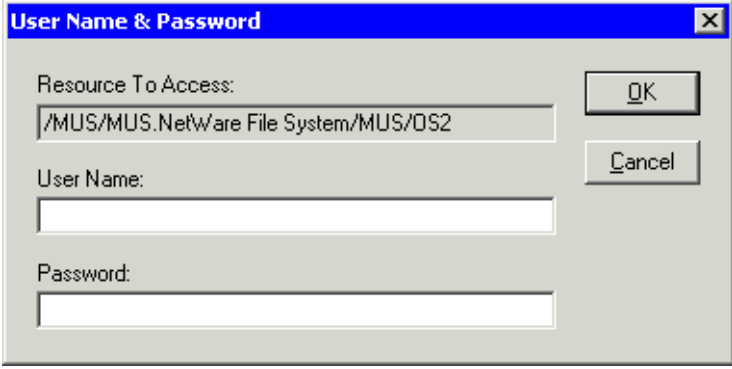
1. On the NetBackup for NetWare NonTarget Browser, choose **Actions** > **Restore** > **Restore from Normal Backups**.

    If files or folders do not display in the Restore window, it can be due to one of the following:

    ◆ **Perform Default Search** is not enabled. In this case, start a search manually by clicking **Search Backups** on the **Actions** menu. Or to display the files in a backup, click a backup image.

    ◆ The NetBackup server does not have any backups of files for your NetWare Client. Ensure that the client is connecting to the correct server (see "Setting Server Configuration Options" on page 40). Also, ensure that you are using the correct client name (see "Setting General Configuration Options" on page 37). You can also refer to the title bar, which displays the names of the client and the server the client is connected to. If these settings are correct and you believe there are backups available, contact your NetBackup system administrator.

2. Click the selection circle next to the data you want to restore. For example, you can select to restore an entire volume by clicking on the selection circle next to the volume name. If you only want to restore directories or files, you must expand the volume, and then select the specific directories or files you want to restore.

3. Choose **Restore** > **Restore Marked Files**.

    The User Name & Password dialog appears.

User Name & Password Dialog

4. Enter the **User Name** and **Password** and click **OK**.

   The Restore Marked Files dialog appears. Options for this dialog are described in "Restore Marked Files Dialog" on page 98.

5. Select the options you want, and then click **Start Restore**.

6. If you want to view the progress of the restore, click **Yes**; otherwise, click **No**.

   For information about viewing status, see "Viewing Job Status" on page 85.

Restore Marked Files Dialog

The Restore Marked Files dialog appears when creating a restore operation from the NetBackup for NetWare NonTarget Browser. Use this dialog to view your selections before proceeding with the operation. If the list is longer than the list box, a vertical scroll bar appears along the right edge of the pane.

Restore Marked Files Dialog
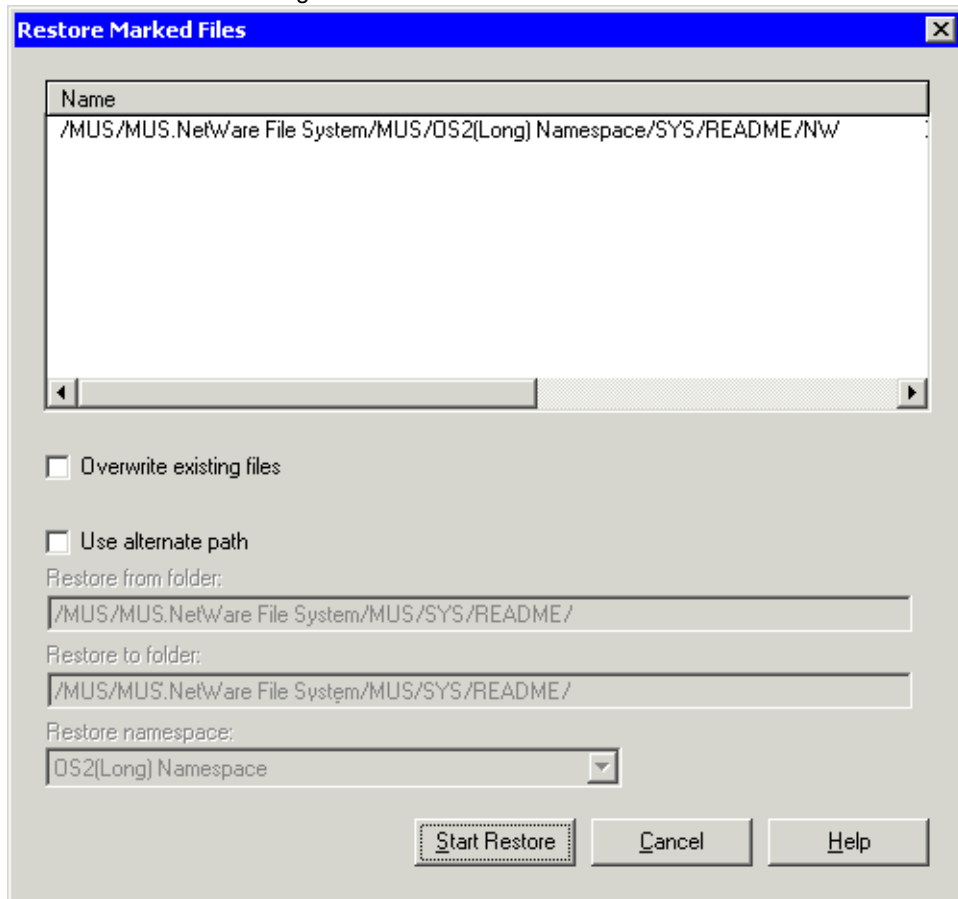
Options on this dialog include:

Restore Marked Files Dialog Options

Item	Description
Name	Lists the names of the files or folders marked for restore.

Restore Marked Files Dialog Options (continued)

Item	Description
Overwrite existing files	Select this check box if you want to overwrite existing files or folders. The default is to not overwrite. In this mode, the restore does not occur if the files or folders exist.
Use alternate path	Select this check box if you want NetBackup to restore files to a different path on your computer.
Restore from folder	Enter the path from which files and/or folders were backed up.
Restore to folder	Enter the path to the folder to which you want to restore files.
Restore namespace	Select the namespace for the alternate resource. The possible values are: No Namespaces, Directory Namespace, DOS Namespace, FTAM Namespace, NFS Namespace, Macintosh Namespace, OS2 Namespace.
Start Restore	Initiates the restore operation.
Cancel	To cancel and return to the previous display without accepting changes to the parameters in this dialog, click this button.
Help	To view online help for this dialog, click this button.
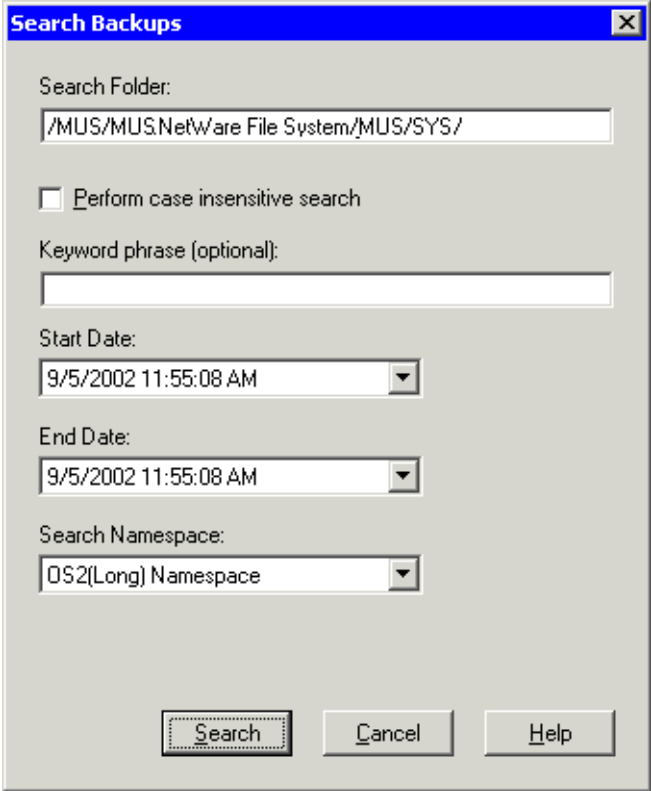
Using Search Backups to Narrow Parameters

You can use the **Search Backups** option to narrow parameters used when searching backups. For example, you may know the name of a specific file that you want to restore, or you may want to search for backups made during a particular range of dates.

▼ **To search backups:**

1. On the NetBackup for NetWare NonTarget Browser, choose **Actions menu** > **Restore**, and then select from one of the following **Restore** menu options:

- ◆ **Restore from Normal Backups**. Select this option to select files or folders saved during previous backups and start a restore operation.

- ◆ **Restore from True Image Backups**. Select this option to select files or folders saved during previous true image backups and start a true image restore operation.

- ◆ **Restore from Backup Exec Backups**. Select this option to select files or folders saved during previous backups and restore Backup Exec images.

2. Choose **Restore** > **Search Backups**.

The Search Backups dialog appears.

Search Backups Dialog

Search Backups

Search Folder:

/MUS/MUS.NetWare File System/MUS/SYS/

☐ Perform case insensitive search

Keyword phrase (optional):

Start Date:

9/5/2002 11:55:08 AM

End Date:

9/5/2002 11:55:08 AM

Search Namespace:

OS2(Long) Namespace

[Search] [Cancel] [Help]

Options on this dialog are as follows:

Search Backups Dialog Options

Item	Description
Search Folder	Shows the folder for which you are searching. The initial value for the **Search Folder** is ":\". If you select a folder in the NetBackup Restore window, that folder becomes the new default.
	To change the path, enter a new value and press Return.
	If you enter a full path name, NetBackup will search for the specific path and file in the selected backup images. Or you can enter only the filename (csb.tmp or *.tmp) and NetBackup will show, in the All Folders pane, the folders where the specified files were found.
	You can use these wildcard characters:
	*
	?
	Tip Before initiating a search, collapse the tree in the All Folders pane as much as possible. NetBackup will expand the tree to the folders that match your search criteria.
Perform case insensitive search	Select this option to perform case-insensitive searches.
	The search path is case sensitive and must match what is in the database on the NetBackup server. By default the checkbox is cleared.
Keyword phrase (optional)	Enter a keyword phrase associated with a backup image.
Start Date	Select the **Start Date** you want to use when browsing for backups. By default, the start date will be the time of the last full backup. To change the date, click in the box and select from the list of available backup images.
	If you change the **Start Date**, NetBackup clears all the restore selections that you have previously made.

Search Backups Dialog Options (continued)

Item	Description
End Date	Select the **End Date** you want to use when browsing for backups. By default, the end date will be the time of the most recent backup. To change the date, click in the box and select from the list of available backup images. If you change the **End Date**, NetBackup clears all the restore selections that you have previously made.
Search Namespace	Enter the namespace for the resource. The possible values are: No Namespaces, Directory Namespace, DOS Namespace, FTAM Namespace, NFS Namespace, Macintosh Namespace, OS2 Namespace.
Search	Initiates a search for specified files or folders. The NetBackup Restore window will show the folders that match the search criteria.
Cancel	To cancel and return to the previous display without accepting changes to the parameters in this dialog, click this button.
Help	To view online help for this dialog, click this button.

3. Select the options you want, and then click **Search**.

Setting NonTarget Browser Restore Options

You can select the master server for NetWare Client backups you want to restore or select the NetWare Client backups you want to restore through the NonTarget Browser's NetBackup Restore Options dialog.

▼ **To set restore options:**

1. On the NetBackup for NetWare NonTarget Browser, choose **Restore** > **Specify NetBackup Machines**.

    The NetBackup Restore Options dialog appears. This dialog contains two tabbed pages:

    ◆ Servers (see "Servers Property Sheet" on page 104 for a description of options)

    ◆ Clients (see "Clients Property Sheet" on page 106 for a description of options)

2. Select the options you want, and then click **OK**.

Servers Property Sheet

Use this property sheet to select the master server for the client backups you want to restore. Changes made in this dialog will not be saved after closing this NetBackup Restore window.

Restores Options Servers Tab
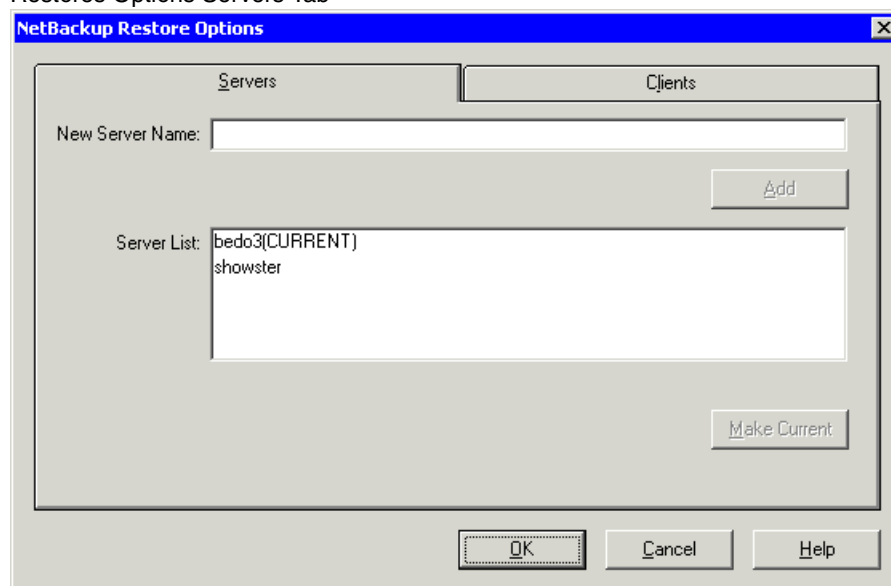
Options on **Servers** tab include:

Servers Tab Options

Item	Description
New Server Name	To add another NetBackup server to the **Server List**, type the name of the new server in the **New Server Name** text box and click **Add**. The name must be as defined by the system administrator on that server.
Add	Adds the server, entered in the **New Server Name** box, to the **Server List**.
Server List	Shows the names of the NetBackup servers that require access to the client for restores, and any other servers used when performing user-directed restores. The master server and any media servers that perform server-directed restores of the client must appear in this list. The machine designated as CURRENT will be the server used for user-directed operations.
	To mark a server as CURRENT, select a server from the **Server List** and click **Make Current**. The word CURRENT appears in parentheses beside the name.
Make Current	Click this button after selecting a server in the **Server List** to change the current server.
	Note Changing the current server only affects the current Restore window; the setting is not saved after the Restore window is closed.
OK	Click this button to accept changes to the parameters.
Cancel	Click this button to cancel and return to the previous display without accepting changes to the parameters in this dialog.
Help	Click this button to view online help.

Clients Property Sheet

Use this property sheet to select the client backups you want to restore. Changes made in this dialog will not be saved after closing this NetBackup Restore window.

Options on this dialog include:

Clients Tab Options

Item	Description
New Client Name	To add another client name to the **Client List**, type the name of the client in the **New Client Name** and click **Add**. The client name entered must also be defined in a policy on the NetBackup server.
Add	Click this button to add the client, entered in the **New Client Name** box, to the **Client List**.
Client List	The **Client List** contains the client name for your computer. It can also contain the names of remote NetBackup clients. You can select local or remote NetBackup clients on which to perform NetBackup operations.
	The NetBackup server administrator must set up the required permissions before you can browse and restore from any remote client.
	To perform a NetBackup operation on a NetWare Client, select the name from the **Client List** and click **Make Current**. The word CURRENT appears in parentheses beside the name of the new default client.
Make Current	Click this button after selecting a client in the **Client List** to change the current client used for browsing backups.
	Note Changing the current client only affects the current Restore window; the setting is not saved after the Restore window is closed.
Class Type	View and select class type for the client selected in the **Client List**. The class type must be the same as specified for the client in the NetBackup configuration.
OK	Click this button to accept changes to the parameters.

NetWare Client System Administrator's Guide

Redirecting Restores

You can restore files to the original path from which they were backed up or redirect the files to a different path on your NetWare server. If you have the necessary permissions, you can also redirect a restore to another NetWare Client and restore files that were backed up by another client to your NetWare server.

Redirected restores must be done from a Novell server that is a NetWare Client. This limitation exists because the user interface on a NetBackup server cannot resolve the name spaces on Novell servers.

Redirecting Restores to a Different Target

When specifying different targets and paths during a restore, it is important to know how NetBackup uses target configuration files during backups and restores.

◆ During a backup, NetBackup uses the target configuration to determine how to access a server and which resources to back up. As used here, the term "resource" refers to volumes, directories, and files.

◆ During a restore, NetBackup uses the information in the target configuration to determine how to access a server but does not use the information about resources. Instead, NetBackup attempts to restore the files to the same named resource from which they were backed up. If this resource does not exist on the target server, the restore fails.

▼ **To redirect files to a different target without specifying a different path:**

1. If you have not created a new restore target, follow the procedures described in "Defining Targets to Back Up" on page 53 to create a new target.

2. On the **Main Menu**, type **r**.

3. On the **Restore Backups** menu, type **a** to specify a destination target.

4. In the **New Restore From Target** field, type the name of the target (saved during a previous backup) that you want to restore to a different target and press Enter, or leave this field blank and press Enter to use the **Current Restore From Target** as the source target.

5. In the **New Restore To Target** field, type the name of the different target where you want to restore the files, and then press Enter.

6. Review the information presented to you. If it is correct, type **y** to accept the target specifications.

During the restore, NetBackup restores all files from the **Current Restore From Target** (the target the files were originally backed up from) to the **New Restore To Target** (the different target).

> **Note** Specifying a different target creates an `altpath.nnn` file in the `SYS:\VERITAS\NBUCLT\NETBACK\LOGS` directory. You must manually delete these files.

7. On the **Restore Backups** menu, type **r** to initiate the backup and continue with the restore steps described in "" on page 91.

▼ **To redirect files to a different target and path:**

1. If you have not created a new restore target, follow the procedures described in "" on page 53 to create a new target.

2. On the **Main Menu**, type **r**.

3. On the **Restore Backups** menu, type **a** to specify a destination target.

4. In the **New Restore From Target** field, type the name of the target (saved during a previous backup) that you want to restore to a different target and press <Enter>, or leave this field blank and press <Enter> to use the **Current Restore From Target** as the source target.

5. In the **New Restore From Target** field, type the name of target that you want to restore to followed by a forward slash (/) and the new path. For example:

    NEWTGT/VOLUME/DIR

> **Note** When redirecting to a different target and path, you must always type the target name even if the **Current Restore From Target** and **New Restore To Target** are the same.

6. Select the namespace to use when renaming files, and then press <Enter>.

NetBackup supports the following namespaces:

◆ LONG

◆ DOS

◆ Macintosh

◆ NFS

◆ FTAM

Only the namespaces relevant on the destination machine appear as selections. The path where you intend to restore the files must be using the same type of namespace.

> **Note** If the new name does not conform to the requirements of the specified namespace, the restore will fail. For example, if you specify a DOS namespace and the new name generated does not conform to the 8.3 DOS format, the file cannot be created and an error occurs.

7. Continue with the restore steps as described in "Performing Restores Using the Target Method" on page 91.

Redirecting Restores Using the NonTarget Browser

With the NetBackup for NetWare NonTarget Browser, you can redirect a restore to a different folder by selecting the **Use alternate path** option on the Restore Marked Files dialog (see "Restore Marked Files Dialog" on page 98).

▼ **To redirect data using the NonTarget Browser:**

1. Follow steps 1 through 4 for creating a restore job described in "Performing Restores Using the NetBackup for NetWare NonTarget Browser" on page 96.

2. On the Restore Marked Files dialog, select **Use alternate path**.

3. Ensure the directory from which the files were backed up appears in the **Restore from Folder** field.

4. In the **Restore to Folder** field, enter the directory to which you want to restore the files.

5. Click **Start Restore**.

6. If you want to view the progress of the restore, click **Yes**; otherwise, click **No**.

For information about viewing status, see "Viewing Job Status" on page 85.

Restoring Files Backed Up By Another Client

If you have the necessary permissions from your NetBackup administrator, you can browse the NetBackup database for files backed up by another NetWare Client. You can then restore selected files to your NetWare Client.

▼ **To restore files backed up by another client using Targets:**

    1. Before performing the restore procedure:

        a. Ensure that you have permission to browse and restore files that belong to another NetWare Client. (For more information about browse permissions, refer to *VERITAS NetBackup System Administrator's Guide for UNIX, Volume I*, or *VERITAS NetBackup System Administrator's Guide for Windows, Volume I.*)

        b. On the **Main Menu**, type **n**.

        c. On the **NetBackup Configuration** menu, type **b**.

        d. On the **NetBackup Client Configuration** menu, type **a**.

        e. Type the name of the NetWare Client you want to add, and then press <Enter>.

        f. Type **q** until you return to the **Main Menu**.

        g. On the **Main Menu**, type **r**.

        h. On the **Restore** menu, type **b** until the Browse Client field on the top of the page changes to the name of the NetWare Client you want to browse.

    2. Complete the restore procedure as described in "Performing Restores Using the Target Method" on page 91.

Note Unless you specify a different target *and* path you can only restore files to the same resource from which you backed them up. For example, if you back up files from the SYS volume, then you can only restore them to a SYS volume. If the client to which you are restoring the files does not have a SYS volume, the restore fails.

▼ **To restore files backed up by another client using the NonTarget Browser:**

1. Before performing the restore procedure:

   a. Ensure that you have permission to browse and restore files that belong to another NetWare Client. (For more information about browse permissions, refer to *VERITAS NetBackup System Administrator's Guide for UNIX, Volume I*, or *VERITAS NetBackup System Administrator's Guide for Windows, Volume I.*)

   b. Choose **Actions** > **Configure**.

   c. Click **Clients**.

   d. If the name of the NetWare Client you want to browse does not appear in the **Client List**, type the NetWare Client's name, and then click **Add**.

   e. In the **Client List**, select the NetWare Client you want to browse, and then click **Make Current**.

2. Complete the restore procedure as described in "Performing Restores Using the NetBackup for NetWare NonTarget Browser" on page 96.

Restoring a True Image of a Directory

Note You can only restore a true image of a directory if the NetBackup policy that backed up your files and directories was configured to collect true image restore information. For more information, see *VERITAS NetBackup System Administrator's Guide for UNIX, Volume I*, or *VERITAS NetBackup System Administrator's Guide for Windows, Volume I.*

A true image restore allows you to restore a directory to what it was at the time of a selected scheduled full or incremental backup. Files deleted before that time are not restored.

You may want a true image restore if you have recently deleted unwanted files from a directory and now want to restore the latest scheduled backup without having to delete these files again. For example, suppose you are backing up the contents of the SYS:\ABC\DOC directory. A scheduled full backup ran on Monday that contained the following files:

◆ SYS:\ABC\DOC\FILE1

◆ SYS:\ABC\DOC\FILE2

◆ SYS:\ABC\DOC\DIRA\FILEA

◆ SYS:\ABC\DOC\DIRB\FILEB

◆ SYS:\ABC\DOC\FILE3

On Tuesday, a scheduled incremental backup ran that contained the following files:

◆ SYS:\ABC\DOC\FILE1

◆ SYS:\ABC\DOC\FILE2

◆ SYS:\ABC\DOC\DIRA\FILEA

On Wednesday, you run a user-directed backup that contains the following files:

◆ SYS:\ABC\DOC\FILE1

◆ SYS:\ABC\DOC\FILE2

◆ SYS:\ABC\DOC\DIRA\FILEA

◆ SYS:\ABC\DOC\DIRC\FILEC

◆ SYS:\ABC\DOC\FILE4

On Thursday, a scheduled incremental backup ran that contained the following files:

◆ SYS:\ABC\DOC\FILE1

◆ SYS:\ABC\DOC\FILE2

◆ SYS:\ABC\DOC\FILE4

On Friday, you need to restore your SYS:\ABC\DOC directory.

If your policy did *not* have **Collect true image restore information** selected, the restored directory will contain all of the files that ever existed in SYS:\ABC\DOC from the last full backup to the last incremental. This restore would include:

◆ SYS:\ABC\DOC\FILE1

◆ SYS:\ABC\DOC\FILE2

◆ SYS:\ABC\DOC\DIRA\FILEA

◆ SYS:\ABC\DOC\DIRB\FILEB

◆ SYS:\ABC\DOC\FILE3

◆ SYS:\ABC\DOC\DIRC\FILEC

◆ SYS:\ABC\DOC\FILE4

If you perform a true image restore, files deleted before the last incremental backup would not be restored. Therefore, the contents of the directory after the restore would be:

◆ SYS:\ABC\DOC\FILE1

◆ SYS:\ABC\DOC\FILE2

◆ SYS:\ABC\DOC\FILE4

NetBackup does not provide true image recovery based on the time of a user-directed backup or archive. However, it does use the images from user-directed operations for a true image restore if they are more recent than the latest scheduled full or incremental backup. If you are overwriting the directory you are restoring, files that are in the directory but not in the true image backups will *not* be deleted.

▼ **To restore true image backups using the Target method:**

1. On the **Main Menu**, type f.

   The **Restore True Image Backups** menu appears. This menu is similar to the Restore Backup menu described in "Using the Restore Backups Menu" on page 94.

2. Type d and type the range of dates you want.

   It is usually best to leave the start date at the default unless you are restoring a version that existed before the last full backup.

3. On the **Restore True Image Backups** menu, type **p**.

4. Type the complete path of the directory, and then press <Enter>.

5. On the **Restore True Image Backups** menu, type **s** to initiate a search of the NetBackup database for directories that belong to the client and meet the path and date criteria.

   Individual files will not appear and cannot be selected because true image restores are for entire directories.

6. Use the menu options at the bottom of the Search screen to browse and select the desired files and directories from the backup images.

   When you are through selecting, type **o** (for Ok) to return to the previous menu.

7. Type **r** to initiate the restore.

8. When prompted, type **y** if you want to overwrite existing files; otherwise, type **n**.

9. When prompted, type **y** if you want to use progress logs; otherwise, type **n**. For more information about progress logs, see "Using Log Files" on page 50.

10. If you selected to use progress logs, verify the default path listed is correct, or enter a new path, and then press <Enter>.

11. Type **y** to initiate the restore.

12. After the restore operation is successfully initiated, press <Enter> to return to the
Restore True Image Backups menu.

▼ **To restore true image backups using the NonTarget Browser:**

1. On the NetBackup for NetWare NonTarget Browser, choose **Actions** > **Restore** >
Restore from True Image Backup.

> **Note** You can perform a true image restore only if the TIR (True Image Restore) option on
> the NetBackup server is set AND if a backup with the TIR option set has been
> previously performed. If you get a No Entity Found message at this point, notify
> your NetBackup administrator.

2. In the **All Folders** pane of the Restore (True Image) window, double-click the parent
of the folder you want to restore.

The double-click updates the Restore (True Image) window to show the folders that
are available for true image restores. Notice that the lists show only folders.
Individual files do not appear because true image restores are intended only for
restoring entire folders. To list or select individual files, use **Restore from Backup**.

If NetBackup cannot find any folders, click **Search Folder** in the Search Backups
dialog. Also check the range of backups that you are searching (NetBackup History
pane). If all of these settings are correct and no folders are found, ask the
administrator to see if the NetBackup policy that is backing up your files and folders
is configured to collect true image restore information.

3. Select the folder you want to restore by marking it in the **Contents of "*folder*"** pane.

> **Note** When a file in the folder has the same file name as a file in the true image backup,
> NetBackup will delete the file from the folder and replace, or restore, the file from
> the true image backup. NetBackup will not delete files from the folder that are not
> in the true image restore.

4. Choose **Restore** > **Restore Marked Files**.

By default, NetBackup restores the folder to its original location. For information on
redirecting restores, see "Redirecting Restores Using the NonTarget Browser" on
page 109.

Restoring from Backup Exec Images

From the NonTarget Browser, you can select to restore Backup Exec images. To restore from Backup Exec images, your NetBackup system administrator must first import Backup Exec media into NetBackup.

Backup Exec backup type descriptions in the NetBackup Restore window differ from the descriptions of the NetBackup types. The differences are as follows:

NetBackup Backup Type	Backup Exec Backup Type
Full	Copy
Differential	Incremental
Cumulative Incremental	Differential

When restoring Backup Exec images to the NetWare Client, `bpsrv.nlm` and `bpcd.nlm` must be running on the client.

The Backup Exec Tape Reader for NetBackup option should be installed on the NetBackup server. Refer to the *VERITAS NetBackup System Administrator's Guide for Windows* for more information.

▼ **To restore from Backup Exec images**

1. On the NetBackup for NetWare NonTarget Browser, choose **Actions** > **Restore**, and then select **Restore from Backup Exec Backups**.

   The NetBackup Restore window displays.

2. Select the files or folders to restore.

3. Choose **Restore** > **Restore Marked Files**.

   The Restore Marked Files dialog appears.

4. Select the restore options you want.

5. Click **Start Restore** to start the restore operation.

Setting Open File Backup Option
Parameters 6

The OFTB section of the bp.ini file defines the behavior of the Open File Backup Option, a NetBackup option that allows you to back up files, databases, and applications that are open or active. For more information about the bp.ini file and the other sections contained in this file, see "Understanding the BP.INI File" on page 22.

The Open File Backup Option establishes a point-in-time view, or snapshot, of the data on the drives that contain files to be backed up. NetBackup then backs up the selected files as they existed at the time of the snapshot, regardless of file system activity. The snapshot is maintained by using a cache system to store changes that occur during the backup.

The volumes you want to back up with the Open File Backup Option on NetWare 5.x must be traditional NetWare volumes; NetWare 5.x NSS volumes are not supported. NSS volumes are only supported on NetWare 6.x.

In addition to eliminating problems with busy files, the Open File Backup Option keeps all relationships between files in the backup intact. For example, assume that keywords in files A and B must be synchronized for an application to work. Without the Open File Backup Option, if A is backed up but B is changed before it is backed up, the two files are not synchronized after a restore and the application will not work. With the Open File Backup Option, all files are backed up as they exist at a single point in time so that relationships are maintained and these problems cannot occur.

Installing and Enabling the Open File Backup Option

The Open File Backup Option can be installed on the NetWare server as part of the NetWare Client installation. If you have already installed the NetWare Client and want to now install the Open File Backup Option, follow the procedures described in "Installing the NetWare Client" on page 9, selecting **NetWare Server** and **Open File Backup Option** as the installation components you want to install.

In order to use the Open File Backup Option, one of the following must occur:

◆ The **Use** parameter in the bp.ini file must be set to yes or 1 (see "Installing and Enabling the Open File Backup Option" on page 117).

♦ The **Enable OTM during backups** option must be selected through the NetBackup administration console. For information about this option, refer to *VERITAS NetBackup System Administrator's Guide for UNIX* or *VERITAS NetBackup System Administrator's Guide for Windows.*

Setting OFTB Parameters in the BP.INI File

The bp.ini file is divided into sections and each section is formatted as follows:

```
[section name]
parameter name = value
```

Where:

[*section name*]	Identifies the start of a new configuration file section.
parameter name	Identifies the name of a configuration file parameter.
value	Is the value to be set for the associated configuration file parameter.

The following describes the OTM section of the file. An example file follows these descriptions.

[oftb] Section

Use

Enables the Open File Backup Option. This parameter must be turned on for a backup using the Open File Backup Option to occur. Enter **yes** or **1** to enable the Open File Backup Option, or **no** or **0** to disable the Open File Backup Option.

Example BP.INI File

The following is an example of the OTM section in a typical BP.INI:

```
[oftb]
Use = 1
```

See also:

"Understanding the BP.INI File" on page 22

"Example BP.INI File" on page 29

Using the NetWare Client in a Cluster **7**

Server clusters provide high availability and manageability of critical network resources, including data (volumes), applications, server licenses, and services. In a server cluster, two or more servers (called *nodes*) are linked in a network, and run cluster software that allows network resources to be tied to a cluster rather than to individual network servers. With cluster-enabled volumes, your data and applications appear to be provided by a single system, even though the cluster may be composed of several network servers.

When one node fails, the failed node's applications and volumes are transparently restarted on a surviving node (called *failover*). During failover, most users will not even be aware of the failure.

When the node that failed returns to service, the volumes newly acquired by the failover node migrate to the controlling node (called *failback*).

The NetWare Client protects data on the cluster volumes by allowing you to back up and restore data stored on any node in the cluster.

How the NetWare Client Works in a Cluster

In a cluster environment, the NetWare Client is installed on each node in the cluster. For installation requirements and procedures, see "Installing the NetWare Client" on page 9.

IP protocol must be enabled and a route must exist between the NetWare Client and NetBackup master and media servers; the master and media servers, however, do not have to be on the same subnet as the NetWare Client.

Cluster volumes are mounted on a single physical server. When a node failover occurs, the cluster volume automatically remounts on another node in the cluster.

The NetWare Client is server volume-centric, meaning these clients only display volumes that are mounted on, or "owned by", a server. When you create a backup, whether it be a scheduled backup or a user-directed backup, you can only back up volumes that are owned by the server.

To make the NetWare Client work in a cluster environment you must either create targets or allow scheduled access for all virual nodes on all physical servers. You should also understand the following limitations:

◆ Backup completion status could be **Successful** for a volume if the cluster volume was mounted. Or, it could appear as a 1 or a 71, depending on whether you are using single streaming or multi-streaming for backups. You must, therefore, check logs to ensure only the expected volumes were skipped (see "Understanding Status Limitation" on page 121).

◆ The first time a virtual node fails over, its associated volume will be backed up in full, which could lead to greater media usage.

◆ NetBackup does not track what virtual node controls each shared volume. Therefore, you and the NetBackup system administrator must be able to track what physical node controlled what virtual node, or restores will become a lengthy process.

Creating Targets for a Cluster

If you are using the Target method, you must set up targets for all virtual nodes on all physical servers.

▼ **To set up targets for a cluster:**

1. Have the cluster administrator fail all virtual nodes to a single physical node.

2. Define a target for each volume appearing on the physical node. For steps for defining targets, refer to "Defining Targets to Back Up" on page 53.

3. Define a target for the server specific information.

4. Fail all virtual volumes over to the next physical volume and repeat steps 2 and 3.

Allowing Scheduled Access for a Cluster

If you are using the NonTarget method, you must allow scheduled access for all virtual nodes on all physical servers to allow server-directed backups.

▼ **To allow scheduled access for all virtual nodes:**

1. Have the cluster administrator fail all virtual nodes to a single physical node.

2. Select the physical node, and then choose **Backup** > **Allow Scheduled Access**.

3. Fail all virtual volumes over to the next physical volume and repeat step 2.

For information about using the **Allow Scheduled Access** option, see "Allowing Scheduled Access" on page 69.

Understanding Status Limitation

If a resource containing a mounted cluster volume is backed up when the cluster has failed over, the job status will appear as **Successful**.

If a backup is run when failover has not occurred, the server will not be able to access the virtual nodes. In this case, if single stream backups are run, the job will always show a completion status of **1** due to the servers not being able to access the virtual nodes it does not control. If the policy is set to multi-stream, the status of virtual volumes not controled by the physical node will be **71**. Because of this limitation, you must check the logs to verify that only the virtual volumes not under the control of the server during the backup were skipped.

Setting TSA600 Cluster Parameter to "Off"

If you are protecting NetWare 6 systems in your cluster environment with the NetWare Client, you must load the TSA600.NLM with the parameter `cluster=off`. This prevents the TSAs from reporting the clustered volume through the virtual cluster server.

▼ **To set the cluster parameter to off:**

1. Change sys:nsn/user/smsrun.bas from **read** only to **read/write**.

2. Edit sys:nsn/user/smsrun.bas, changing:

    ```
    nlmArray = Array("SMDR", "TSA600", "TSAPROXY")
    ```
    to:
    ```
    nlmArry = Array("SMDR", "TSA600/cluster=off", "TSAPROXY")
    ```

3. Save changes.

4. At the NetWare server console, type:

    SMSSTOP

5. At the NetWare server console type:

    SMSSTART

Troubleshooting the NetWare Client   8

This section contains a checklist for preventing common install, backup, restore, and configuration errors. This section also contains frequently asked questions about the Novell NetWare Client.

If you encounter problems that require assistance from tech support, you will need the following files so tech support can troubleshoot issues with the NetWare Client:

◆ BP.INI file, which is the configuration file used by the NetWare Client software to control back up and restore operations on your computer. For more information, see "Understanding the BP.INI File" on page 22.

◆ BPCD log, which contains information useful for troubleshooting communications between your NetBackup client and the NetBackup server. When changing the debug logging levels, some of the changes take effect immediately while others require the BPCD.NLM to be unloaded, and then reloaded. For more information about the log files, see "Using Log Files" on page 50.

◆ CONFIG.TXT, which is generated by the Novell CONFIG.NLM. The CONFIG.TXT file would be written in SYS:\SYSTEM. This NLM can be found on Novell's support site. It should be ran each time it is requested by support to get the current state of the server. For more information about CONFIG.TXT, refer to your Novell NetWare documentation.

Checklist

For best results when installing and configuring the NetWare Client, do the following:

❏ Ensure all minimum system requirements are met. For information about these requirements, see "Minimum System Requirements" on page 7.

❏ Ensure that name resolution is properly working. You may want to have your NetWare server ping by name your NetBackup master and media servers, and have your NetBackup master and media servers ping by name your NetWare server. If you are not using DNS, ensure your systems' hosts files contain the correct IP address and names of the servers they will be communicating with (see "Adding Information to the Hosts File" on page 8).

❏ Ensure you have created a BP.INI file (see "Modifying BP.INI Through the Target's NetBackup Configuration Menu" on page 31 and "Modifying BP.INI Parameters With the NonTarget Method" on page 36).

For best results when backing up using the target method, do the following:

❏ Ensure a policy that allows backups of the NetWare server has been created at the NetBackup Administration Console (see "Setting Up Policies for the NetWare Client" on page 69).

❏ Create a target for each resource you want to protect using the NetWare Client. The targets must be created on the NetWare server through the Target Configuration menu before either scheduled backups can be created from the server or user-directed backups can be launched from the NetWare server. For information about creating targets, see "Defining Targets to Back Up" on page 53.

❏ Ensure you have Read and File Scan rights for whatever you want to back up.

For best results when backing up using the nontarget method, do the following:

❏ Ensure a policy that allows backups of the NetWare server has been created at the NetBackup Administration Console (see "Setting Up Policies for the NetWare Client" on page 69).

❏ Ensure you have provided scheduled access rights to all resources that will be backed up using scheduled backups launched from the NetBackup Administration Console (see "Allowing Scheduled Access" on page 69).

❏ Ensure you have Read and File Scan rights for whatever you want to back up.

For best results when restoring using the target method, do the following:

❏ Ensure the information that appears at the top of the Restore Backups screen is correct. (see "Using the Restore Backups Menu" on page 94).

❏ Ensure you have Create and Write rights to the volume to which you are restoring.

❏ Ensure `Allow_Server_Write` is set to yes in the BP.INI file (see "Understanding the BP.INI File" on page 22).

For best results when restoring using the nontarget method, do the following:

❏ Ensure the **Class Type** is **NetWare** for the client to which you are restoring (see "Clients Property Sheet" on page 106) and that the **Policy Type** for the source client is **NetWare** (refer to your NetBackup documentation on specifying NetBackup machines).

❏ Ensure the **Allow server directed restores** is selected in order for restores to be launched from the NetBackup administration console (see "Setting General Configuration Options" on page 37).

Frequently Asked Questions

I've installed the NetWare Client and the NetBackup for NetWare NonTarget Browser. However, when I go to start the user interface I get a message that I'm not authorized to use the program. What's causing this?

There are two reasons you may be getting a "not authorized" message. First, you must have rights to the directory where the NetWare Client software is installed. Second, if you are using the NetWare NonTarget Browser, you must have IPX to make connections to the NetWare server. IPX must be enabled and bound on both the NetWare server and the workstation running the NetWare NonTarget Browser. IPX must also be configured properly. An inaccurate network number or IPX filtering will also cause the "not authorized" error.

I added the IP address for my NetBackup master server in the NetWare server's hosts file, but my servers don't seem to be able to communicate with each other. What's happening?

If you are not using Domain Name Services (DNS), then the IP addresses for the NetWare servers must be included in your master and media servers' hosts files. The NetBackup master and media servers' IP addresses also must be in the NetWare server's hosts file. Forward and reverse name resolution must be available. For more information, see "Adding Information to the Hosts File" on page 8.

When I attempt to start my NonTarget Browser, I receive the error message "Unable to locate the NetWare server running the NetBackup Service." What does this mean?

It could mean a bad network connection or that the NetWare Client is not running the NetBackup service. Make sure the network connection is working and that the server to which you are trying to connect has the NetWare Client software installed and running. You may also want to map a drive on your Windows system to the NetWare Client.

When I tried to bring up the NonTarget Browser's restore window, I get a message that the server does not contain any backups using the specified class type. I know my backups ran successfully, so why do I get the message and how can I get my list of files?

Your NetBackup master is not using the right policy type for your NetWare Client.

▼ **To select the right policy type:**

1. On the NetBackup for NetWare NonTarget Browser, choose **File** > **Specify NetBackup Machines**.

2. Click **Source Clients/Policy Type**.

3. Ensure the **Policy Type** selected is **NetWare**.

4. Click **OK**.

I received the error "No active classes contain schedules of the requested type for the client (198)" when I attempted to run a user-directed backup. I was trying to use the same policy used for the scheduled backups, which ran successfully. The policy or class type is set to Standard, and I am using the target method to create the user-directed backup. What is causing this error?

In addition having the **Policy Type** set to **Standard**, the policy must also have **User Backup** selected as a **Type of backup**. For more information about creating policies, see "Setting Up Policies for the NetWare Client" on page 69.

I'm using OTM and receive a message that I have insufficient disk space, but it looks like I have plenty of free disk space. What should I do?

Make sure the free space does not include purgable space because the cache file will not use purgable space. If there is not enough free space, the cache file will not be created. There are two major causes for the cache file to run out of disk space:

◆ All files being backed up are viewed as outbound files to virus software, which causes them to be opened during the backup. OTM will try to cache all of those open files and will run out of room in its cache file. Disable virus software from scanning outbound files and try the backup again.

◆ GroupWise Post Office Agent (GWPOA) indexing will also cause the cache file to run out of space. By default, this indexing occurs at midnight and every four hours after that. If indexing is running, the entire GWPOA will be seen as open to OTM and will be cached. With large databases, the cache file will run out of space very quickly.

Index

user-directed operation, status 85
UserName 27
username 81, 96, 97

V

Version 25

View menu 16
View Status dialog 86

W

Window menu 17